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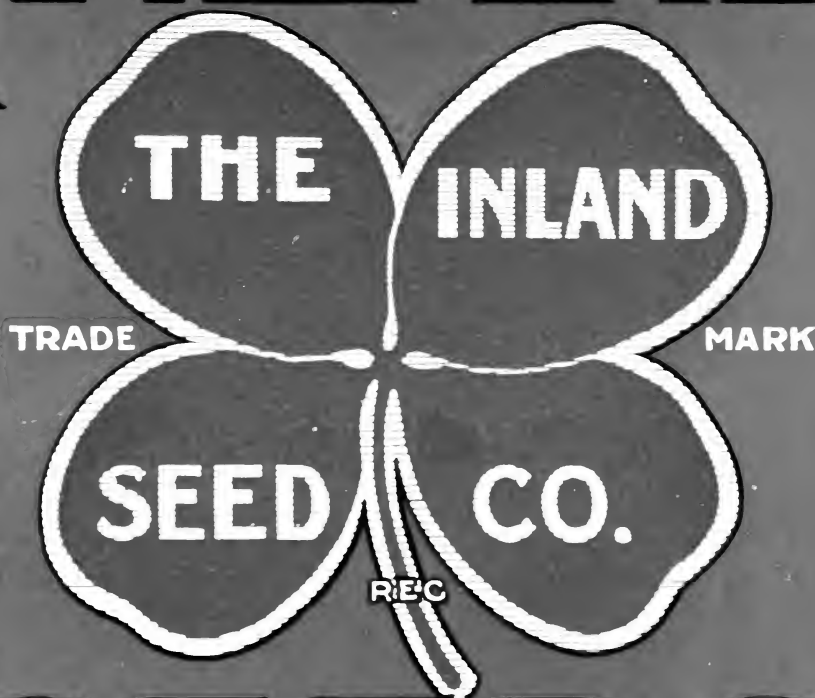
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INLAND



SEEDS

S P O K A N E , W A S H .

1921

THE INLAND SEED CO., in this, their annual message, send greetings to all those whom they had the privilege of serving during the year 1920 and all former years; likewise send greetings and good wishes to all others.

MAIL ORDERS

We fully realize that very few of our customers can call in person at our store, therefore our aim in compiling this catalogue has been to describe goods as nearly correct as possible, to quote lowest prices, to make everything so plain that errors on the part of our customers in making out their orders, and errors on our part in filling orders, may be entirely eliminated.

LAST YEAR

We enjoyed the largest mail order business we ever had. Judging from the letters of appreciation received referring to our promptness in filling orders as well as to the quality of our seeds, we are looking forward to a great increase in our mail orders during the year 1921.

YOU CAN BUY

As cheap from our catalogue and receive as prompt service, if you mail us your orders as you could by calling in person at our store.

QUALITY, SERVICE, PRICES

Have won for us the reputation of being the Largest, Most Prompt, Most Dependable Mail Order Seed House in the Northwest.

MAIL YOUR ORDERS

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FREE INFORMATION BUREAU

This has been established for the use of our customers. Use it freely. Write us about anything you are interested in.

WHEN YOU ORDER

Write name and address plainly.
Give postoffice and shipping point.

Include prepay charges if necessary.

Figure postage correctly.

All orders strictly cash.

Plants not sent C. O. D.

If you want your order insured send additional remittance.

Ten cents will insure any order less than fifty dollars.

THE INLAND SEED CO.

Spokane, Washington

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When ordering, look for the zone

under your ZONE will be shown the amount of catalogue the weight of most items mailable by parcel post, and by aid of the table here shown you can always figure your postage.

SIZE AND WEIGHT

A Parcel Post package may weigh from 4 ozs. to 70 lbs. for the first, second and third zones—with a 20-pound weight limit for third to eighth zones, and must not exceed in size 84 inches in length and girth combined.

Four ounces or less will be charged for at 1c per ounce or fraction thereof, except on Books, Seeds, Plants, Bulbs, etc., which are 1c for 2 ozs. up to 8 ozs. for any distance.

In British Columbia and Canada

the rate on any parcel up to four ounces is one cent per ounce. All parcels over four ounces take the pound rate, which is 12 cents per pound up to 4 pounds 6 ounces.

that corresponds to the distance you are away. Then note where the weight of your package is marked on the table of rates, on the same line postage to be added when ordering. We have

Weight	1st Zone		2nd Zone	3rd Zone	4th Zone	5th Zone	6th Zone	7th Zone	8th Zone
	Local rate	Zone rate 50 miles	50 to 150 miles	150 to 300 miles	300 to 600 miles	600 to 1000 miles	1000 to 1400 miles	1400 to 1800 miles	1800 miles All over
1 pound					\$0.07	\$0.08	\$0.09	\$0.11	\$0.12
2 pounds					.11	.14	.17	.21	.24
3 pounds					.15	.20	.25	.31	.36
4 pounds					.19	.26	.33	.41	.48
5 pounds					.23	.32	.41	.51	.60
6 pounds					.27	.38	.49	.61	.72
7 pounds					.31	.44	.57	.71	.84
8 pounds					.35	.50	.65	.81	.96
9 pounds					.39	.56	.73	.91	1.08
10 pounds					.43	.62	.81	1.01	1.20
11 pounds					.47	.68	.89	1.11	1.32
12 pounds					.51	.74	.97	1.21	1.44
13 pounds					.55	.80	1.05	1.31	1.56
14 pounds					.59	.86	1.13	1.41	1.68
15 pounds					.63	.92	1.21	1.51	1.80
16 pounds					.67	.98	1.29	1.61	1.92
17 pounds					.71	1.04	1.37	1.71	2.04
18 pounds					.75	1.10	1.45	1.81	2.16
19 pounds					.79	1.16	1.53	1.91	2.28
20 pounds					.83	1.22	1.61	2.01	2.40

WAR TAX

On Packages requiring 25c Postage add 1c Tax; on 26c to 49c add 2c Tax; over 49c add 1c for every 25c or fraction thereof.

SPECIAL ASSORTMENTS

In our 1920 Catalogue we offered two special assortments. These were so popular and gave such good satisfaction that we have increased the number to five. We can not make any changes in any of these special orders, and we reserve the right to substitute should we run short of any of the varieties.

Assortment No. 1, 50c., Prepaid

1 Beet, Detroit	5c	1 Parsley, Moss Curled	5c
1 Carrot, D. H. Long	5c	1 Parsnip, Hollow Crown	5c
1 Corn, G. Bantam	5c	1 Radish, Scarlet Globe	5c
1 Cucumber, Long Green	5c	1 Radishes, W. Icicle	5c
1 Lettuce, E. C. Simpson	5c	1 Turnip, P. Top Globe	5c
1 Onion, Y. G. Danver	5c		—
1 Onions, S. W. Globe	5c	Total	60c

Assortment No. 2, \$1.00, Prepaid

1 Beans, Golden Wax	5c	1 Musk Melon, Rockyford	5c
1 Beans, G. Stringless	5c	1 Onion, Y. G. Danver	5c
1 Beet, Detroit	5c	1 Onion, S. W. Globe	5c
1 Beet, Egyptian	5c	1 Parsley, Moss Curled	5c
1 Beet, Swiss Chard	5c	1 Parsnip, Hollow Crown	5c
1 Carrot, D. H. Long	5c	1 Peas, Gradus	5c
1 Carrot, Ox Heart	5c	1 Peas, Little Gem	5c
1 Corn, G. Bantam	5c	1 Pumpkin, Sugar	5c
1 Corn, E. Minnesota	5c	1 Radish, Scarlet Globe	5c
1 Cucumber, Long Green	5c	1 Radish, W. Icicle	5c
1 Endive	5c	1 Spinage, Long Standing	5c
1 Lettuce, Prizehead	5c	1 Turnip, P. Top Globe	5c
1 Lettuce, E. C. Simpson	5c	Total	\$1.25

Assortment No. 3, \$1.25, Prepaid

1 Beet, Detroit	5c	1 Parsnip, Hollow Crown	5c
1 Beet, Egyptian	5c	1 Pumpkin, Sugar	5c
1 Carrot, D. H. Long	5c	1 Radish, Scarlet Globe	5c
1 Carrot, Oxheart	5c	1 Radish, White Icicle	5c
1 Cucumber, Long Green	5c	1 Spinage, Long Standing	5c
1 Lettuce, Pighead	5c	1 Turnip, P. Top Globe	5c
1 Lettuce, E. C. Simpson	5c	1 Beans, Golden Wax	15c
1 Musk Melon, Rockyford	5c	1 Corn, Golden Bantam	15c
1 Onion, S. W. Globe	5c	1 Pea, Gradus	15c
1 Parsley	5c	Total	\$1.25

Assortment No. 4, \$1.20, Prepaid

1 Beans, Golden Wax	15c	1 Pea, A. Wonder	15c
1 Bean, Green Stringless	15c	1 Pea, Gradus	15c
1 Beet, Egyptian	15c	1 Turnip, P. L. S. Leaved	15c
1 Carrot, D. H. Long	15c		—
1 Corn, Golden Bantam	15c	Total	\$1.20

Assortment No. 5, 65c., Prepaid

1 Sweet Pea, Mixed	15c	1 Candytuft	5c
1 Nasturtium, Mixed	15c	1 Pansy, Mixed	10c
1 Aster, Mixed	10c	1 Sweet Alyssum	5c
1 California Poppy	5c	Total	65c

THE INLAND SEED CO.

Spokane, Washington

THE GARDEN

A small garden, if well planned and cared for properly, will produce far more vegetables than the average family can consume during the maturing period of the crops. It is possible to reduce the cost of the family's food materially by taking advantage of the possibilities of the home garden and the satisfaction of having a supply of fresh vegetables can not be measured in dollars and cents. Fresh vegetables from the home garden are not subjected to the deterioration which supplies purchased in the markets are.

Location

The question of proximity to the house is of as great importance in locating the garden as the character and contour of the ground. In every case it should be as near as possible.

An important consideration is the location of permanent crops such as asparagus and rhubarb. If any of the small fruits, such as raspberries, currants, and gooseberries, are to be planted within the garden inclosure, they should be included with the permanent crops. The area devoted to the hotbed, coldframe, and seed bed should be decided upon, but these may be shifted more or less from year to year or located in some convenient place outside of the garden.

Fertilizers

The soil for vegetable growing should be rich and well supplied with humus. Barnyard or stable manure is the best, because it furnishes both plant food and humus.

If coarse manure is used, it should be applied in the fall and turned under, but well-rotted manure should be applied after plowing and should be well mixed with the soil by harrowing.

No definite rule can be given for the kind or quantity of mixed fertilizer to be applied, as this varies with the crop and soil. In most cases it is safe to apply 1,000 to 2,000 pounds of a high-grade fertilizer to the acre.

The use of lime is advisable on heavy soils. Lime should not be applied at the same time as either stable manure or mixed fertilizer, as it will under those circumstances cause the loss of nitrogen.

Hotbeds

The common method of starting early plants in the North is by means of a hotbed. The hotbed consists of an inclosure covered with sash and supplied with some form of heat, usually fermenting stable manure, to keep the plants warm and in a growing condition. The hotbed should always face the south, and the south side of a dwelling, barn, tight board fence, hedge, or anything affording similar protection will furnish a good location.

In the North the hotbed should be started in February or early in March, in order that the plants may be well grown in time to plant in the open ground.

A temporary hotbed, such as would ordinarily be employed on the farm, is easily constructed by the use of manure from the horse stable where the bed will be sheltered, shake out the manure into a broad, flat heap, and thoroughly compact by trampling. The manure heap should be 8 or 9 feet wide, 18 to 24 inches deep when compacted, and may be of any desired length, according to the number of sash to be employed.

Hotbeds having more or less permanence may be so constructed as to be heated either with fermenting manure, a stove, a brick flue, or by means of radiating pipes supplied with steam or hot water from a heating plant. For a permanent bed in which fermenting manure is to supply the heat, a pit 24 to 30 inches in depth should be provided. The sides and ends of the pit may be supported by brick walls or by a lining of 2-inch plank held in place by stakes.

Sash

Some gardeners use sash made especially for

hotbeds and glazed with small lights cut from odds and ends and so furnished at very low rates. Such sash can usually be procured in any of our large cities and costs much less than if made to order. For garden use, however, we much prefer a smaller sash that can be easily handled and the use of larger and better glass. We recommend that for home gardens the sash be about two and one-half by four or five feet and that the glass be not less than 10x14, laid with not more than one-quarter inch lap. In giving the order to one unaccustomed to the work, it would be well to state what they are to be used for, and that they need to be made like skylight sash.

Frame

This may be made of sound one-inch lumber, the back twelve to fourteen inches high, the front ten to twelve. It should be well fitted to the sash so as to leave as little opening as possible and yet allow the sash to be easily moved up and down, even when the frame is quite wet.

Watering

Hotbeds should be watered on bright days and in the morning only. Watering in the evening or on cloudy days has a tendency to chill the bed and increase the danger from freezing. After watering the bed should be well ventilated in order to dry the foliage of the plants and the surface of the soil to prevent the plants being lost by mildew or damping-off.

Coldframes

A coldframe is a simple construction of boards for wintering over young plants, Cabbage, Lettuce, Cauliflower, etc., and is also useful to protect and harden off plants from the greenhouse or hotbed before fully exposing them in the open air.

Select a dry, southern exposure, form a frame from four to six feet wide and as long as required. The back should be fourteen to eighteen inches high and the front eight to twelve, with a cross-tie every three feet. The frame may be covered with sash or cloth. Seeds of the vegetables to be wintered, sown in open border early in September, will be ready to plant in cold frames about the last of October. The soil should be well prepared and smoothly raked before planting. Admit air freely on pleasant days, but keep closed in severe weather.

Seed Bed

It is a good practice to reserve a small corner of the garden for a seed bed. Here, through special preparation of the soil it is possible to produce better plants than could otherwise be secured.

Transplanting

For the best results, plants started in boxes, hotbeds, or coldframes should be transplanted when they reach a height of 1 to 2 inches. Transplanting tends to produce uniform stocky plants and developed root system. The seedlings may be transplanted to boxes or to the hotbed or coldframe, to stand about 2 inches apart each way. Some growers transplant twice.

Hardening Off

Plants grown in a house, or coldframe should be hardened before they are transplanted to the garden. This can be accomplished by ventilation and exposure to outdoor conditions during the day in good weather. If the plants are in a hotbed or coldframe, the covers may be removed during the day when the weather is good and replaced toward nightfall.

Setting Plants in the Open Ground

Before plants are taken for transplanting, the bed should be thoroughly watered and the water allowed to soak into the ground. This will insure a portion of the soil adhering to the roots and will prevent serious wilting or the checking of growth. Take up the plants with a trowel or spade and pack them in the boxes or baskets in which they are to be carried in the field.

The Inland Seed Company's

1921 Seed Catalogue 1921

Seeds

ARTICHOKE TUBERS

Planted and cultivated the same as potatoes. Of great value for feeding stock. They are the best hog feed known. They are remarkable for their fattening properties, and great productiveness. One lb., postpaid, 20c; at purchaser's expense, 50 lbs., \$2.00; 100 lbs., \$3.50.



ASPARAGUS SEED

CULTURE—Sow in early spring in rows; when one year old the roots may be taken up and transplanted in permanent beds, which should be made by taking out the soil to a depth of about 16 inches, fill in with six inches of well rotted stable manure, then 6 inches of soil, somewhat firmed, and place the roots on the same about 10 inches apart with the roots well spread out and cover

so that the crown will be about 4 inches below the surface.

PALMETTO—This variety is very desirable on account of its earliness, bright green color, presenting an attractive appearance, excellent flavor and productiveness. Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 60c; 1 lb., \$1.00.

Beans

It is a fact worth emphasizing that in order to secure the best results from seeds that the seeds themselves should be fully matured, well developed, of good germination, and capable of strong, vigorous growth. In order to secure these very essential and necessary qualities, we are having our wax and green podded bush varieties grown in Washington and Idaho, in localities especially suited to their growth and culture, by men who thoroughly understand the preparation of the ground, cultivation and harvesting of the crop.

This insures to us seed of the very best type and of the highest quality.

CULTURE—Beans should not be planted until the ground is warm, as cold and wet weather will cause the seed to rot. For garden culture plant four or five seeds in hills one foot apart, in rows 18 inches apart. For field culture, make the rows 3 or 3½ feet apart, and cover with two inches mellow soil.

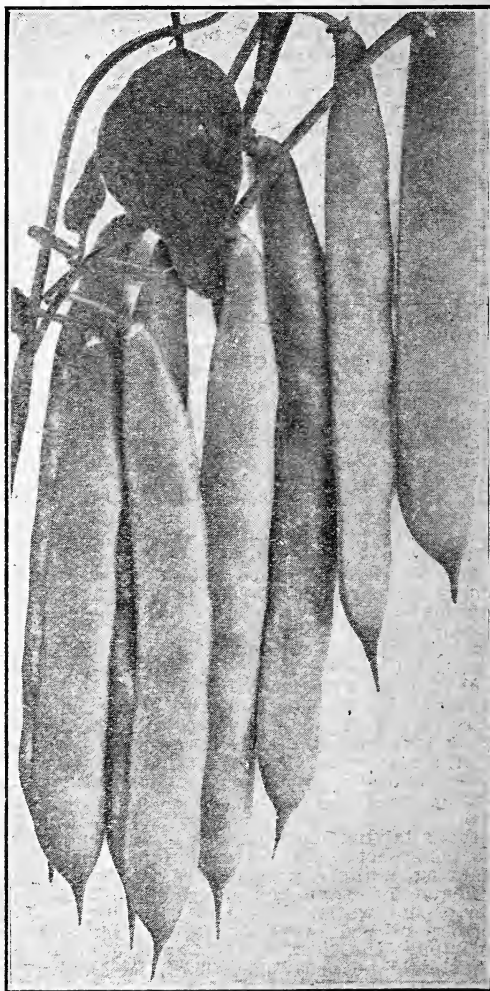
Bush, Wax Podded

All varieties of Wax Beans, 35c lb., postpaid; at purchaser's expense: 1 lb., 30c; 5 lbs., \$1.25; 10 lbs., \$2.25; 25 lbs., \$5.00; 50 lbs., \$8.50; 100 lbs., \$15.00.

BLACK WAX, PROLIFIC—This improved strain of Black Wax we offer under this name is exceptionally productive, very hardy, reliable and of the best quality. It is very extensively used for snaps for the home garden and mar-

ket. The plants are medium sized, erect in growth, with small foliage, very vigorous, early intermediate in season with longer bearing period than most sorts. The pods are of medium length four and one-fourth to four and one-half inches, borne well up from the ground, curved, cylindrical and fleshy. They are of a clear, light golden yellow color and remain a long time in condition for use as snaps. Seed small, oblong, jet black.

DAVIS WAX—This is also called White Kidney Wax. It is a well known market sort, much used for shipping. The plants are very hardy and productive and the variety is very desirable where a handsome wax-podded, white seeded intermediate sort is wanted. The plants are very vigorous. The pods are remarkably long, about 6 inches, sometimes longer. They are handsome, light yellow, straight, very attractive and when young are crisp and tender. The dry beans are excellent for baking. Seed medium large, kidney shaped clear white.



Golden Wax

GOLDEN WAX IMPROVED—This is one of the earliest and best dwarf sorts for

BEANS—Continued

the home market and private gardens. The plants are erect, compact, and very productive. The pods are of medium length, four and one-half to five inches, nearly straight, broad, flat, golden yellow, very fleshy and wax-like. Seed medium sized, oval, white, more or less covered with two shades of purplish red. The amount and shade of color on this and all partially colored beans will be affected greatly by conditions of soil and ripening.

WARDELL'S KIDNEY WAX—This standard variety maturing a little later than Golden Wax, yields a large crop of long, nearly straight, broad, light golden yellow, handsome pods. These are of large size, about six inches long, and are of good quality. They always command a ready sale, making the variety one of the most profitable for the market gardener as well as shipper. This is also very extensively used for snaps for the home garden. The plants are strong growing and bear their long pods well up from the ground. The leaves are large, broad and slightly roughened. Seed large, flattened, kidney shaped, white with dark markings about the eye.

All varieties of Wax Beans, 35c lb., postpaid; at purchaser's expense: 1 lb., 30c; 5 lbs., \$1.25; 10 lbs., \$2.25; 25 lbs., \$5.00; 50 lbs., \$8.50; 100 lbs., \$15.00.

Bush, Green Podded

REFUGEE, EXTRA EARLY—A very early, green-podded variety, with medium-sized, green, fleshy pods; seed drab, freely spotted with dark purple. The vines are smaller and of more upright growth, and leaves a little larger than the late Refugee. The pods are round and make an attractive appearance when shipped to market. Their color is lighter than most of the green beans

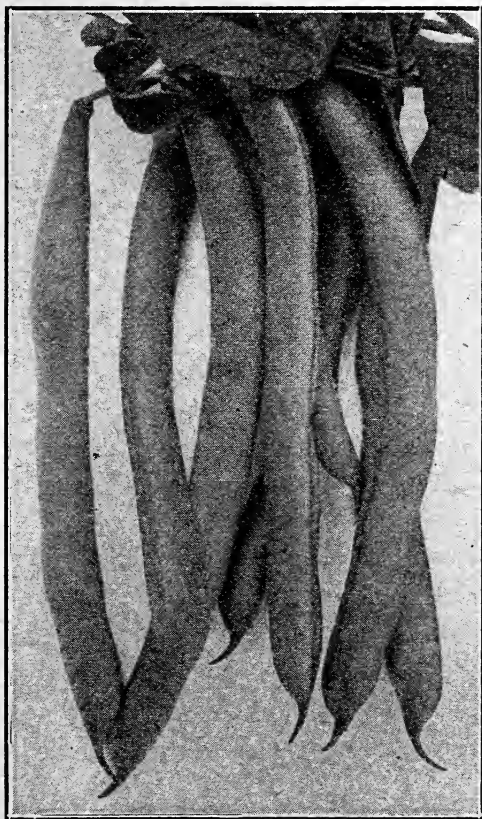
STRINGLESS, GREEN—Very desirable dwarf green podded snap sort for the home garden and largely grown for the market. The plants are large, spreading and productive. The pods are medium green, five to six inches long, cylindrical, and remain crisp and tender long. Seed medium size and length, yellowish brown.

Refugee and Stringless. Lb., 35c, postpaid; at purchaser's expense: 1 lb., 30c; 5 lbs., \$1.25; 10 lbs., \$2.25; 25 lbs., \$5.00; 50 lbs., \$8.50; 100 lbs., \$15.00.

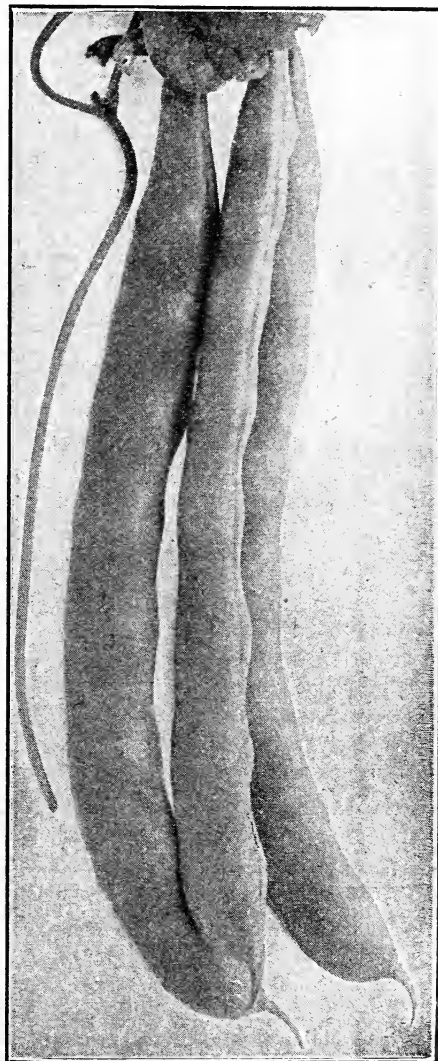
Pole, Green Podded

Although Pole Beans require considerable care and labor, they are, when properly grown, usually of longer bearing period than the Dwarf sorts and are generally more productive.

DUTCH CASE KNIFE—The vines of this well-known green podded kidney bean for green shell use are of good climbing habit, but twining rather loosely and may be used for a corn hill sort of medium season. It is used for snaps when quite young. The leaves are large and crumpled. The pods are very long, seven to eight inches, flat, irregular, medium green, becoming lighter as they mature. Seed broad, kidney shaped, flat, clear white and of excellent quality whether used green or dry. Lb., 40c, postpaid; at purchaser's expense: 1 lb., 35c; 5 lbs., \$1.50; 10 lbs., \$2.75.



Green Stringless



Kentucky Wonder

BEANS—Continued.

KENTUCKY WONDER—Also known as Old Homestead. We believe this variety is the most practically useful of the green podded pole beans suitable for use as snaps. It is early, very prolific, with showy pods which are of most excellent quality. The vines are vigorous, climbing well, bearing pods in large clusters. The pods are medium light green, very long, often reaching 9 or 10 inches, curved and twisted, nearly round and very crisp when young, becoming very irregular and spongy as the beans ripen. Seed long, oval, slightly flattened, dun colored. One of the very best early pole snap beans for the home garden or market. Lb., 40c., postpaid; at purchaser's expense, 1 lb., 35c; 5 lbs., \$1.50; 10 lbs., \$2.75; 25 lbs., \$6.00; 50 lbs., \$10.00; 100 lbs., \$18.00.

LAZY WIFE—The pods are produced in large clusters in great abundance and are from four to five inches in length. Dark green, rather flat but broad, quite thick, fleshy, and entirely stringless, retaining their brittleness until fully developed; of unusually rich flavor. Lb., 40c. postpaid; at purchaser's expense, 5 lbs., \$1.50; 10 lbs., \$2.75; 25 lbs., \$6.75; 50 lbs., \$12.50; 100 lbs., \$24.00.

Pole, Wax Podded

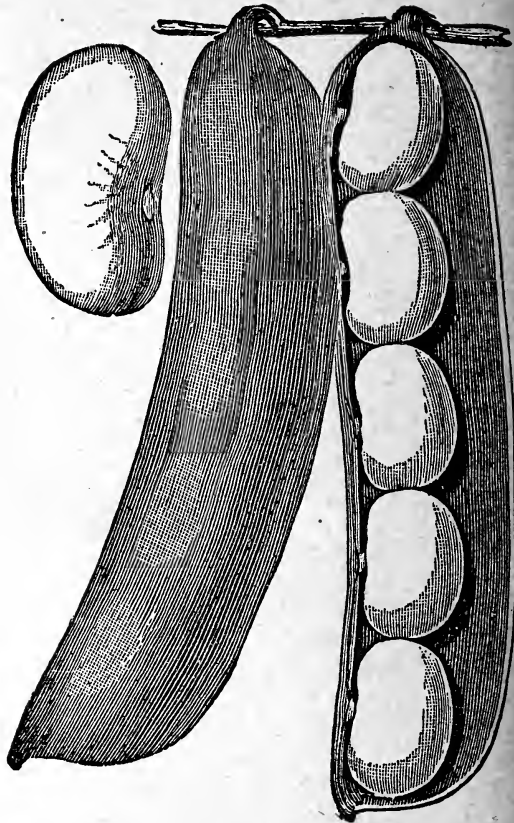
KENTUCKY WONDER—Yellow podded, bears a large quantity of rich, golden-yellow pods from the time the plant is about half-grown until it is killed by frost in the fall. The plant makes a quick, healthy growth, and is exceedingly productive, bearing large pods, which are thick, meaty, stringless; very tender, and have a fine flavor when cooked. This variety is very popular, both for the home garden and for market. 1 lb., 45c, postpaid; at purchaser's expense, 1 lb., 40c; 5 lbs., \$1.75; 10 lbs., \$3.00; 25 lbs., \$6.75; 50 lbs., \$12.50; 100 lbs., \$22.50.

Shelled

DWARF HORTICULTURAL—One of the best dwarf sorts for green shell beans for the home garden and market and can be used early as a green podded snap bean. The plants are very productive, compact and upright, with large leaves. The mature pods are about five and one-half inches in length, broad and thick, curved, with splashes of bright red on a yellowish ground. They become fit for use as green shelled beans early and in this condition the beans are very large, easily shelled and are about equal to the Lima in quality. Seed large, oval, plump, pale buff splashed with deep red. Lb., 45c, postpaid; at purchaser's expense, lb., 40c; 5 lbs., \$1.50; 10 lbs., \$2.75.

BROAD WINDSOR—(*Vicia Faba*)—Sometimes called a tree bean because of its upright growth, bearing its pods at the axil of every leaf. It is sometimes called Horse Bean. Cooked as a shell bean it is very good for table use. Owing to the succulency of its stalk and its productiveness, there is nothing better to grow for healthy hog pasture, and owing to its propensity, for gathering nitrogen, it is one of the best soil renovators. Lb., 35c, postpaid; at purchaser's expense, lb., 30c; 5 lbs., \$1.35; 10 lbs., \$2.50.

BURPEE'S—This is a little the earliest maturing of the large seeded Limas. The plants are vigorous and productive. The pods are medium green, very large, about five inches long, thick and usually contain four or five beans, which are unusually thick, of large, and usually shows a greenish white tinge. One of the best and most extensively used bush Limas for the market as well as home garden. 1 lb., 45c, postpaid; at purchaser's expense, 1 lb., 40c; 5 lbs., \$1.75; 10 lbs., \$3.25.

Limas, Bush**Burpee's**

HENDERSON'S—A dwarf form of the Small White Lima, valuable on that account, and because of its extreme earliness, hardness and productiveness. The plants are without runners but continue to grow and set pods until stopped by frost. The leaves are small and very dark green; flowers small, yellowish-white, borne in clusters and often above the foliage. The pods are medium dark green, short, about two and three-fourths inches, flat and contain two to four beans which are of excellent quality either green-shelled or dry. This is much used by canners, as well as for home and market garden use. Seed small, flat and white with slight tinge of yellow. 1 lb., 40c, postpaid; at purchaser's expense, 1 lb., 35c; 5 lbs., \$1.50; 10 lbs., \$2.75.

Limas, Pole

EARLY JERSEY—This variety is one of the earliest of the pole Limas. Pods are four inches in length and contain three and four large beans each. It is specially recommended for this northern latitude as it gives much better results than can be obtained from any of the other varieties, on account of its earliness and productiveness. 1 lb., 50c, postpaid; at purchaser's expense, 1 lb., 45c; 5 lbs., \$2.00; 10 lbs., \$3.50.

Ornamental

SCARLET RUNNER—Ornamental and useful. The vine is graceful, flowers are of a brilliant scarlet, and the beans are of an excellent quality, either when shelled or in a dry state. 1/4 lb., 15c; 1/2 lb., 25c; 1 lb., 40c, postpaid; at purchaser's expense, 1 lb., 35c; 5 lbs., \$1.50; 10 lbs., \$2.75.

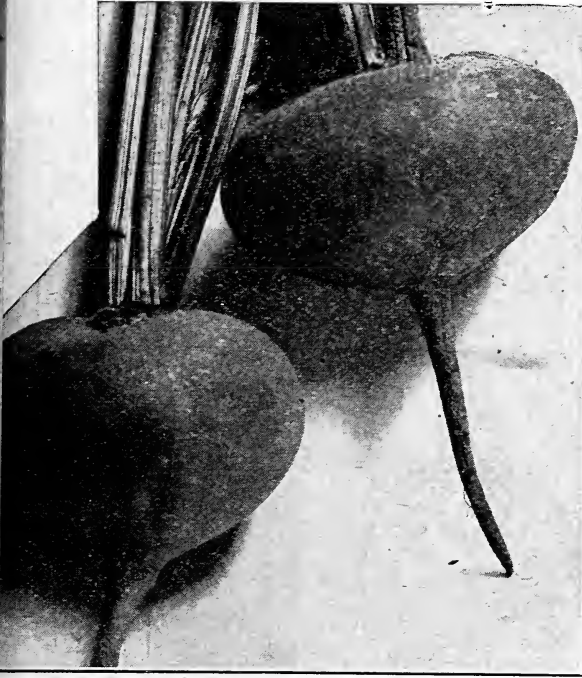
Field

NAVY—Write for prices, stating quantity wanted.

Beets

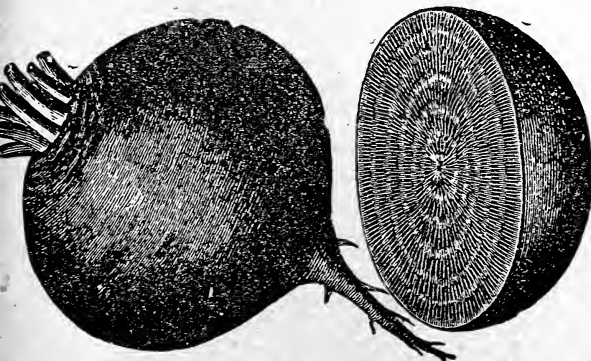
CULTURE—The soil should be deep, rich and mellow, plowed deep and harrowed until very fine. Drop about one inch deep in drills 12 to 18 inches apart, and when well up thin to four or six inches. The tops of the young beets can be used for greens.

All the different varieties of beets, unless otherwise quoted: Pkt., 5c; oz., 10c; 2 oz., 20c; ¼ lb., 30c; ½ lb., 55c; 1 lb., \$1.00, postpaid; at purchaser's expense, 1 lb., 90c; 5 lbs., \$3.75; 10 lbs., \$6.50.



Edmunds' Blood Turnip

BLOOD TURNIP, EDMUNDS—An extra selected stock of Blood Turnip. The roots are dark red and nearly round or slightly flattened. The flesh is deep red, zoned with lighter shade, sweet, crisp and tender. This is an excellent market and home garden sort for summer and autumn use.



Detroit Dark Red.

DETROIT DARK RED—We believe this is the best beet for the market and home garden, and on account of its uniformly deep rich color the most desirable for canning. The tops are small

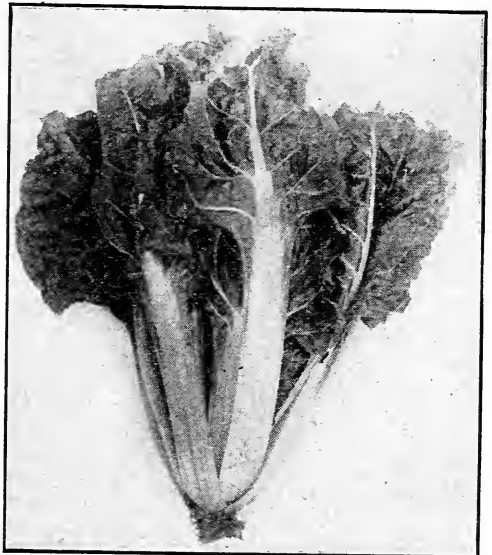
and upright in growth. The leaves are dark green, shaded with red. The roots are medium sized, globular or nearly round, very smooth and of dark blood red color. The flesh is deep vermillion red, zoned with a lighter shade of the same color. The variety is very desirable for bunching. Careful comparisons with all prominent varieties on the market prove that Detroit Dark Red is the most uniform in shape and size and the most attractive in color. It is unsurpassed in quality.

ECLIPSE EARLY—An early beet especially desirable for the home garden and used for bunching. The tops are small. The roots are bright deep red, smooth, round or slightly top shaped, with a small tap and small collar. The flesh is bright red, zoned with pinkish white, very sweet, crisp and tender, especially when young.

EGYPTIAN, CROSBY'S—One of the earliest and best strains of Beets. It is a decided improvement over the well-known Extra Early Egyptian, being equally as early, but larger and more round in form. The roots run uniform in size and shape, have small tops, just right for early bunching. The flesh is deep red, sweet, tender, and of excellent quality. Crosby's Egyptian is fit for the market earlier than most other kinds. It develops its fine turnip shape already in the early stages of its growth and on that account it is also preferred to most other kinds, which take a much longer time to grow to a proper maturity.

HALF LONG BLOOD—An old and popular variety, especially desirable for fall and winter use, as it does not become woody, and keeps better than the turnip shaped varieties. The root is smooth and handsome and the flesh is a bright red and of good quality.

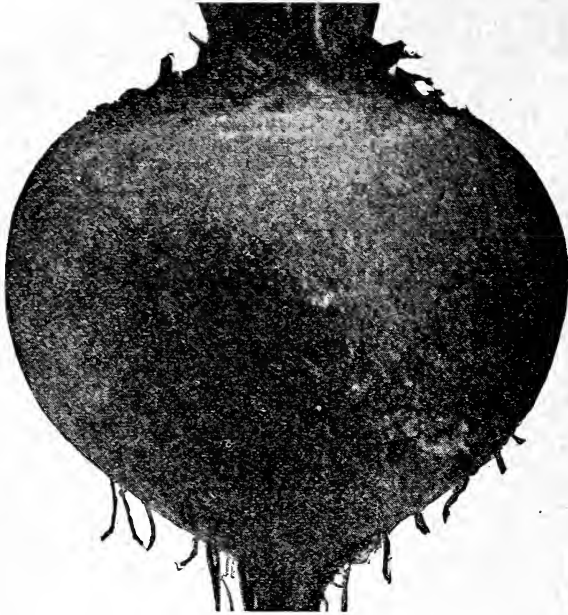
All the different varieties of beets, unless otherwise quoted: Pkt., 5c; oz., 10c; 2 oz., 20c; ¼ lb., 30c; ½ lb., 55c; 1 lb., \$1.00, postpaid; at purchaser's expense, 1 lb., 90c; 5 lbs., \$3.75; 10 lbs., \$6.50.



Swiss Chard

SWISS CHARD OR SEA KALE—This variety does not produce an edible root like the regular garden beet, but is highly esteemed for the broad, white leaf stalks and midribs, which are cooked and served in the same manner as asparagus, making a most delicious vegetable. The leaves are also cooked like spinach. Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 75c; 1 lb., \$1.25.

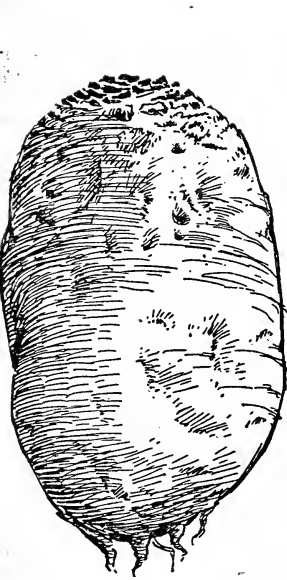
BEETS—Continued.



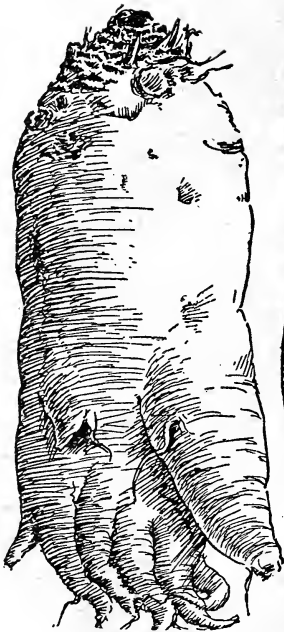
Wonder

The Beet that Beats them all. This new wonderful beet has become very popular since its introduction a few years ago. The earliest, most perfect shaped, finest appearing bunch beet in the market; beautiful dark color, small top, single small tap root, excellent keeper, truly the ideal Beet. Used not only as a bunch beet but grown extensively for late fall sowing because it grows two weeks quicker than almost any other beet. Every beet grower needs this beet. Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 65c; 1 lb., \$1.10, postpaid; at purchaser's expense, 1 lb., \$1.00; 5 lbs., \$4.50; 10 lbs., \$8.00.

Feed your baby chicks
Rydes Milk Mash and make
them grow into strong,
healthy, vigorous chickens.



Golden Tankard



"Sludstrup"



"Eckendorf"



Giant Half Sugar

The great importance of growing Mangel Wurtzel and Sugar Beets for stock feeding is becoming more and more apparent to the progressive farmer, on account of their immense yield, and their fine feeding qualities. In order to secure seed from the very best types, we are contracting with European and American growers that are looked upon by their competitors as real experts. This seed costs us more than seed from the ordinary strains grown by ordinary growers, but we have always believed that quality is of more importance than price, and judging from the increase in our sales each year, we are convinced that the farmers are recognizing and appreciating the high quality of our seeds. All varieties of Mangel Wurtzel and Sugar Beets. Oz., 10c; 2 oz., 15c; ¼ lb., 25c; ½ lb., 40c; 1 lb., 75c, postpaid; at purchaser's expense, 1 lb., 70c; 5 lbs., \$3.00; 10 lbs., \$5.00.

BEETS—Continued.

sugar beet seed; is much easier handled, keeps better and is in every way most valuable to the farmer. Roots large, oval in form, very smooth, with few rootlets; tops small, flesh white.

GIANT RED ECKENDORF—A very popular variety. The roots are smooth, long and cylindrical in shape, very much like the tankard mangels. They are very heavy, weighing up to 15 and 20 pounds each. The flesh is firm, crisp and solid, white in color and of high feeding value. This variety is easily harvested, a large proportion growing above ground.

GOLDEN TANKARD (Improved)—A special feature is the rich, deep yellow color of the flesh, differing in this respect from other Mangels, surpassing them in milk-producing qualities. The roots are of large diameter, tapering quickly at the bottom, which is quite broad, with only a small tap-root. It grows largely above the soil and is easily harvested. It yields an enormous bulk on good land, and can be grown closely in rows.

KLEIN WAUZLEBEN—This variety has proved to be a very valuable sort, on account of its richness in saccharine matter, thus demonstrating its superiority for feeding purposes. Roots rather long, slender growing into the ground. A great yielder.

MAMMOTH LONG

RED—This is the heaviest cropping and largest of all mangels. The roots grow from one-half to two-thirds above the surface and are frequently two or more feet in length by six inches in diameter. Dark, richly colored foliage, skin dark red, flesh white with veined rings of rose-pink.

All varieties of Mangel Wurtzel and Sugar Beets: Oz., 10c; 2 oz., 15c; ¼ lb., 25c; ½ lb., 40c; 1 lb., 75c, post-paid; at purchaser's expense, 1 lb., 70c; 5 lbs., \$3.00; 10 lbs., \$5.00.

MANGEL WURTZELS

DANISH SLUDSTRUP—The Danish Government encourages the growing of root crops by offering certificates of merit to growers who select and produce sorts which are of distinctive value. Sludstrup is considered the best of all mangels, having been awarded first class certificate. In color it is reddish-yellow and of a distinct type. It contains the largest per cent of nutriment found in any sort. It is very hardy, grows well above ground and is easily pulled.

GIANT HALF SUGAR—Is very much more valuable for feeding purposes than the old sorts, it being very much richer. In addition to this, the size and form have been improved until it yields as much per acre as the best mangels, and twice as much per acre as the rich

BRUSSELS SPROUTS

Cultivated for the small heads that grow in considerable numbers from the main stem. It is a delicacy much esteemed by some. Sow in seed bed middle of spring and transplant and manage as winter cabbage. Pkt., 5c; oz., 30c; 2 oz., 50c; ¼ lb., 90c.

Cabbage

Cabbage is recognized as a crop that usually can be depended upon for good returns. The cost of seed per acre is very small, but the quality of seed you obtain is all important. Do not sacrifice quality. Obtain the best. Our seed is secured from the most reliable growers, gives best results, and better satisfaction than the ordinary strain of cabbage.

We want to call special attention to four varieties:

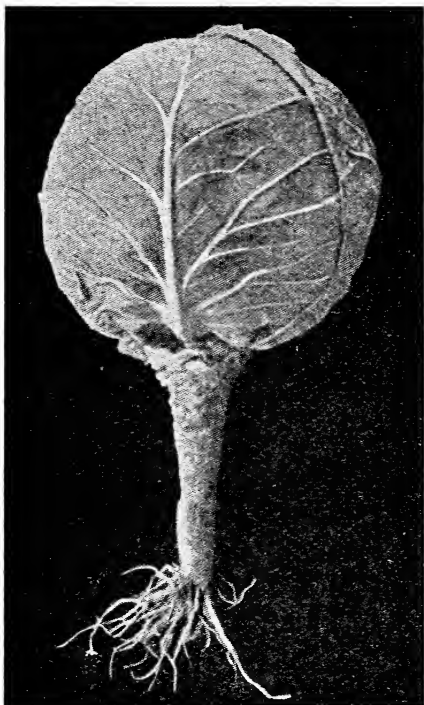
CLOVER LEAF COPENHAGEN MARKET.
CLOVER LEAF DANISH SUMMER BALL HEAD.
CLOVER LEAF DANISH BALL HEAD.
CLOVER LEAF ROUND HEAD.

In the cabbage family these four varieties are specially recommended, and we take just pride in the perfection of the types we have secured, and have full confidence that they will prove to our customers all we have claimed for them.

CULTURE—For early cabbages sow the seed in a hot-bed in March or April, covering the seed from ¼ to ½ an inch deep and, when big enough, transplant to another bed. As soon as the ground is in good condition transplant, outside, in rows 2 feet apart and 15 to 20 inches in the row.

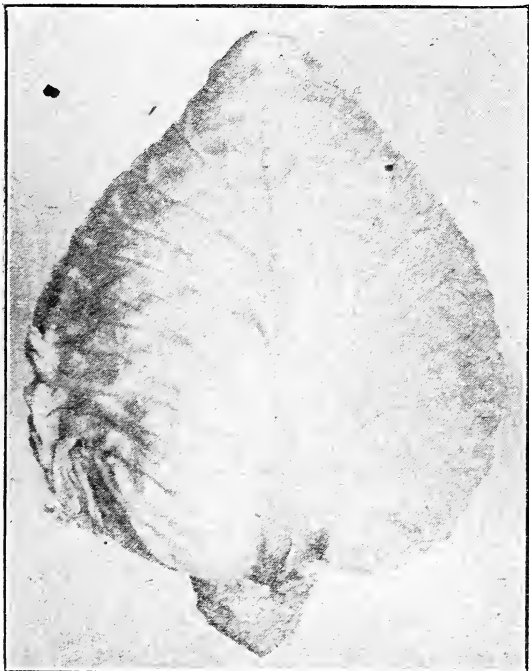
CLOVER LEAF COPENHAGEN MARKET—This superb new cabbage is undoubtedly without a rival as the finest large round-headed early cabbage in cultivation. The type is thoroughly fixed, the heads maturing all at the same time (this being a great consideration to market gardeners, entailing less labor in harvesting the crop, and allowing the ground to be cleared at the first cutting). The heads average about 10 pounds each in weight, are very solid, with small core and of fine quality. It matures a little later than the Early Jersey Wakefield, and will give a much heavier yield per acre than that popular variety. The plant is short-stemmed, the heads being produced almost on the ground level. The leaves are light green, rather small, saucer-shaped, and always tightly

CABBAGE—Continued

First Early

Copenhagen Market

folded. The plants, therefore, can be set closer than is usual with varieties of similar size. Pkt., 10c; oz., 40c; 2 oz., 75c; ¼ lb., \$1.25; ½ lb., \$2.00; 1 lb., \$3.75.



Early Jersey Wakefield

EARLY JERSEY WAKEFIELD—The earliest and hardest heading of extra early cabbages. Most gardeners depend upon it for the bulk of their extra early crop. Heads conical, very compact, solid and of excellent quality. The thick, stout leaves and compact habit make it the best sort for very early setting. Pkt., 5c; oz., 25c; 2 oz., 40c; ¼ lb., 75c; ½ lb., \$1.25; 1 lb., \$2.25.

Second Early

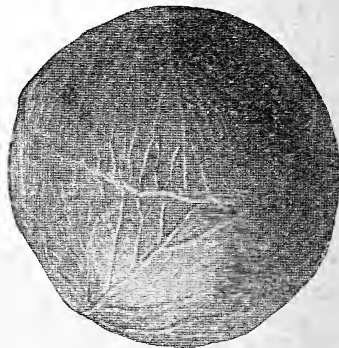
All second early cabbage. Oz., 25c; 2 oz., 40c; ¼ lb., 75c; ½ lb., \$1.25; 1 lb., \$2.25.

ALL HEAD EARLY—This excellent second early market sort produces heads that are very large for so early a cabbage and of very good quality. It is desirable not only for general spring planting but by planting late it can be used as a fall and early winter cabbage. The variety is well adapted for kraut. The plants are compact, with few outer leaves which are comparatively smooth and rather thick. The stem is short. The heads are solid and flat but very deep.

ALL SEASONS—The heads are extremely hard and solid, round, flattened on top. It is called "All Seasons" because it is as good for autumn or winter as for early summer. The plants are very vigorous and sure heading, with few outer leaves which are large and fairly smooth or slightly waved. It is remarkable for its ability to stand the hot sun and dry weather, remaining an exceptionally long time in condition for use. Sometimes sold as Vandergaw.

EARLY WINNINGSTADT—One of the best of the second early or medium early sorts, very hardy, with a very hard sharply pointed head and a very sure cropper. Owing to its compact and upright habit of growth and peculiar texture of its rather short and thick, dark green leaves, the variety resists cold, wet and insect pests exceptionally well. The heads are of medium size, very closely wrapped, sharply conical, of good quality. The leaves are dark bluish green.

All second early cabbage. Pkt., 5c; oz., 25c; 2 oz., 40c; ¼ lb., 75c; ½ lb., \$1.25; 1 lb., \$2.25.

Late

Danish Ball Head

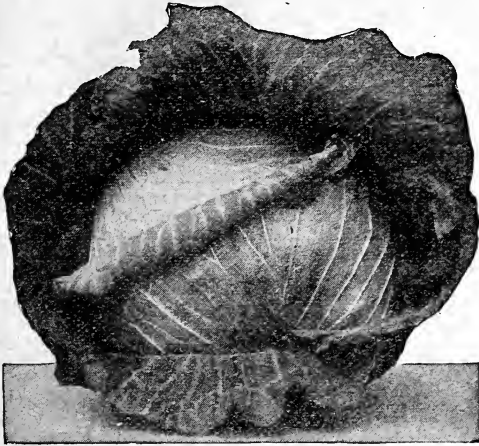
CLOVER LEAF HOLLAND OR DANISH BALL HEAD—Short stemmed. Genuine Danish grown stock. Most remarkable late cabbage yet produced. This is one of the hardest cabbages in cultivation, and endures both frost and drought that would destroy other varieties. The plants are hardy and compact; leaves very smooth, but thick; heads of medium size, round and very solid, being the hardest heading cabbage and of the very best quality. Matures quite late, keeps well and is considered by many the best cabbage to keep until spring.

CLOVER LEAF DANISH ROUND HEAD—An earlier, shorter stemmed, improved strain of the Danish Ball Head cabbage. The heads are hard and very solid and mature about two

CABBAGE—Continued

weeks in advance of the Ball Head. They also average a little larger and heavier. The inner leaves are blanched almost pure white, are of sweet flavor, crisp and tender.

BALLHEAD AND ROUND HEAD. Pkt., 5c; oz., 35c; 2 oz., 60c; ¼ lb., \$1.00; ½ lb., \$1.75; lb., \$3.25.



Flat Dutch

DUTCH, LATE, FLAT—A low-growing variety; heads large, bluish green, round, solid, broad and flat on top; an excellent fall and winter variety and a good keeper; it is a sure header. Pkt., 5c; oz., 25c; 2 oz., 40c; ¼ lb., 75c; ½ lb., \$1.25; lb., \$2.25.

DRUMHEAD SAVOY—The best variety of Savoy or crumpled leaf cabbage. The plant is vigorous, with short stem, has densely crumpled leaves and when touched by frost is sweet, delicate and delicious. The head is large and very solid.

ROCK RED—Best red sort, much used for pickling.

SAVOY AND ROCK RED. Pkt., 5c; oz., 35c; 2 oz., 60c; ¼ lb., \$1.00; ½ lb., \$1.75; lb., \$3.25.

Carrots

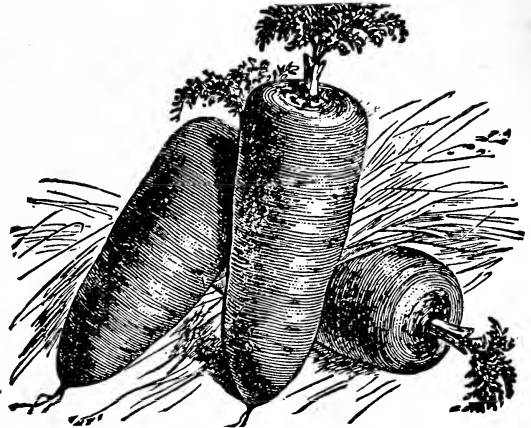
Few people realize that Carrots contain a very large amount of starch, the main constituent of both bread and potatoes. Carrots are also rich in sugar. Easily grown, rarely if ever attacked by insects, and very rich in food value. Carrots should be grown much more largely in the garden. When too large for table use, Carrots make a splendid stock food, hence there is no loss.

CULTURE—The carrot, like other root crops, delights in a sandy loam, deeply tilled. For early crops, sow in the spring as soon as the ground is in good working order; for late crops sow any time until the middle of June.

Carrots—Table

Chantenay—Half-Long, Long Orange and Oxheart: Pkt., 5c; oz., 10c; 2 oz., 20c; ¼ lb., 30c; ½ lb., 55c; 1 lb., \$1.00, postpaid; at purchaser's expense, 1 lb., 90c; 5 lbs., \$3.75; 10 lbs., \$6.50.

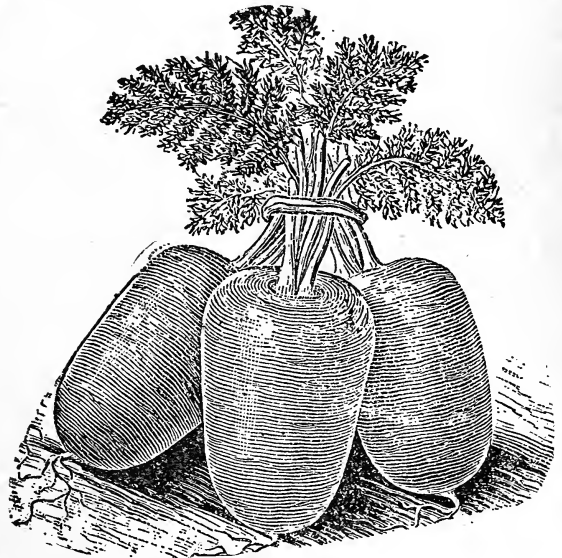
CHANTENAY—Early, scarlet color, stump rooted, broad, thick shoulder, heavy cropper. Fine quality. In shape and appearance it takes a place between the Oxheart and the Danvers Half-Long.



Danvers Half Long

DANVERS HALF-LONG, IMPROVED—A first-class carrot for all soils. The root is of a rich, dark orange color and grows very smooth and handsome. Very productive, producing as much tonnage to the acre as the longer field sorts, and is much easier harvested.

LONG ORANGE, IMPROVED—A deep orange colored variety. Heavy cropper. Good for either garden or field culture, especially adapted for light, deep soils where it can be easily dug, as the roots penetrate farther into the soil than other varieties. Grows fairly thick and entirely under ground, thereby avoiding green shoulders.



Oxheart

OXHEART OR GUERANDE—A thick carrot, five or six inches long and very blunt at the lower extremity. It grows more rapidly and the root attains a weight of more than a pound. It is tender and of good flavor, and a variety that we can recommend to all market gardeners.

Chantenay—Half-Long, Long Orange and Oxheart: Pkt., 5c; oz., 10c; 2 oz., 20c; ¼ lb., 30c; ½ lb., 55c; 1 lb., \$1.00, postpaid; at purchaser's expense, 1 lb., 90c; 5 lbs., \$3.75; 10 lbs., \$6.50.

FRENCH FORCING—This is an excellent variety, both for forcing in cold-frames and for

CARROTS—Continued.

sowing in the garden for the earliest supply. The small roots are round in form, one and a half inches in diameter, smooth, tender, and of fine flavor.

SCARLET HORN, EARLY—A very early variety. Recommended for the very early market and family garden. Texture fine; very delicate in flavor.

FRENCH FORCING AND SCARLET HORN—Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 60c; 1 lb., \$1.10; at purchaser's expense, lb., \$1.00; 5 lbs., \$4.25; 10 lbs., \$7.50.

Carrots—Stock

All stock carrots: Oz., 10c; 2 oz., 20c; ¼ lb., 30c; ½ lb., 55c; 1 lb., \$1.00, postpaid; at purchaser's expense, 1 lb., 90c; 5 lbs., \$3.75; 10 lbs., \$6.50.

WHITE BELGIAN—Grows one-third out of the ground. Root pure white, green above the ground. The flesh is of deep yellow color, tender and of excellent flavor.

YELLOW BELGIAN—Grows one-third out of the ground; with small top; flesh rather coarse; the roots, on light, rich ground grow to a large size, and are extensively grown for stock feeding.

YELLOW GIANT OR SAN JOSE CHAMPION—This carrot is a half-long variety, with an immense broad shoulder. The roots penetrate less than one-half the depth into the ground. The color is a bright yellow, and is perfection for giving the proper color to your butter.

All stock carrots: Oz., 10c; 2 oz., 20c; ¼ lb., 30c; ½ lb., 55c; 1 lb., \$1.00, postpaid; at purchaser's expense, 1 lb., 90c; 5 lbs., \$3.75; 10 lbs., \$6.50.

CAULIFLOWER

—Cauliflower, although one of the most delicious vegetables, is but little grown except by professional gardeners because of the erroneous notion that it is so difficult to grow that only skilled gardeners can produce it. Any one will be reasonably sure of success with this most desirable vegetable if the cultural directions given below are carefully followed.

The Cauliflower is highly esteemed for the mild, delicate flavor and extreme tenderness of the solid white heads.

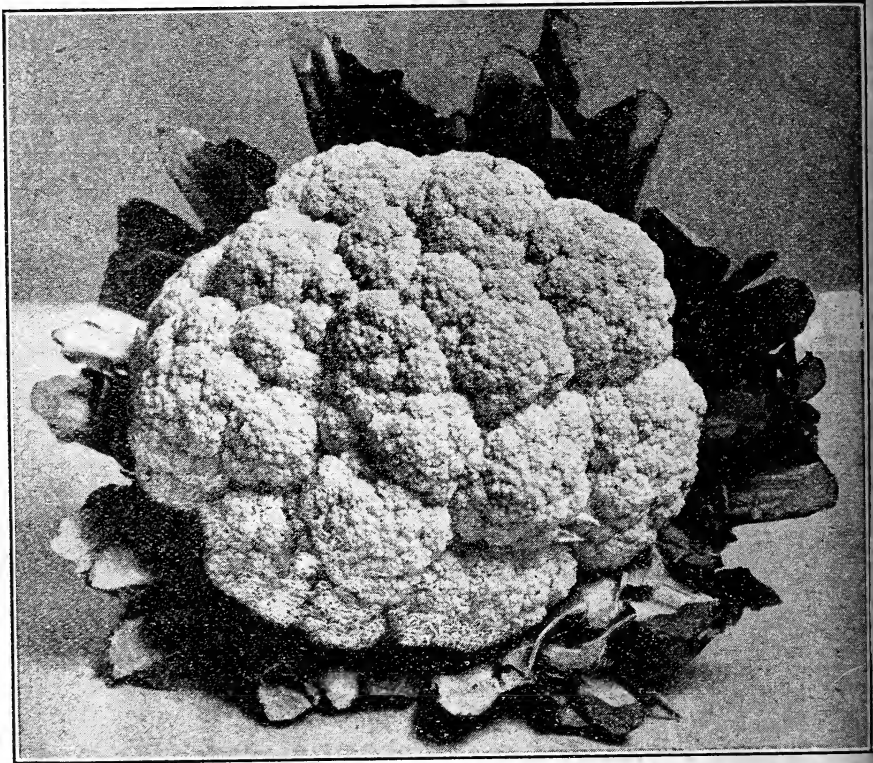
CULTURE—The soil for cauliflower should be like that for cabbage, but is better if made richer than is ordinarily used for that crop. It should be borne in mind that cauliflower will not head up good in hot, dry weather, and hence the sowing should be so regulated as to bring it to maturity either before the hot summer weather sets in or not until the cooler weather of the fall. After the heads begin to form, draw the leaves over and pin or tie them together to protect the heads from the sun and keep them white.

Early

CLOVER LEAF SNOWBALL (Best Imported Strain)—This is an improved extra early strain of dwarf, compact growth. Under favorable circumstances nearly every plant will make a fine, solid head of good size. It is valuable for both early and late.

DANISH GIANT OR DRY WEATHER—Large leaved, with pure white compact heads. It is truly a first-class cauliflower and is specially

Cauliflower

**Snowball**

adapted to dry locations and to resisting the effects of drouth. Two weeks later than the Snowball, when planted at same time. Both varieties of early Cauliflower. Pkt., 10c; ½ oz., \$1.25; oz., \$2.25; 2 oz., \$4.00; ¼ lb., \$7.50.

Late

AUTUMN GIANT—A distinct and valuable late variety. The heads are reasonably large, beautifully white, firm and compact, and, being well protected by foliage, remain for a long time fit to use. The plants should be started and transplanted early in the season to insure their full development. Pkt., 5c; oz., \$1.00; 2 oz., \$1.75; ¼ lb., \$3.00.

Celery

Finely blanched Celery is one of the most popular and attractive vegetables for the table during fall and winter. Would advise making two plantings where wanted for either home use or market. For the earliest crop the seed should be sown in hotbeds during February or March, and the young plants set in rich soil as soon as large enough, after the trees start out in leaf. For the fall or main crop seed may be sown in the open ground as early in the spring as the soil can be worked in good condition, and the plants should be set in the rows during July.

CULTURE—Sow in light, rich soil, in shallow drills, and cover the seed lightly with finely sifted mold. When the plants are 5 to 6 inches high transplant to rows 3 to 4 feet apart, according to the variety, allowing 8 inches between the plants in the row. Cultivate freely and earth up to blanch the stems, pressing the soil firmly around the plant almost to the top, care being taken not to cover the tops of the center shoots.

Early

WHITE PLUME FRENCH GROWN—A very popular variety on account of its naturally white leaf stalks, which require less blanching than the other kinds. It is early, a fine market sort and the variety mostly used by gardeners. Pkt., 5c; oz., 30c; 2 oz., 50c; ¼ lb., 90c; ½ lb., \$1.50; 1 lb., \$2.75.



White Plume Celery.

Medium

GOLDEN SELF-BLANCHING, FRENCH GROWN—It is of a rich, golden tint when ready for the table; very handsome and of excellent quality. Pkt., 10c; oz., 75c; 2 oz., \$1.25; ¼ lb., \$2.25; ½ lb., \$4.00; 1 lb., \$7.50.

Late

CELERIAC OR TURNIP-ROOTED—Grown exclusively for its roots, which are turnip-shaped, very smooth, tender and marrow-like. The roots are cooked and sliced; used with vinegar they make an excellent salad.

Pkt., 5c; oz., 20c; 2 oz., 35c; ¼ lb., 60c; ½ lb., \$1.00; 1 lb., \$1.75.

CHICORY—Witloof or French Endive: This variety produces leaves with wide ribs or leaf stalks which form a cluster or head. Its main use is as a winter salad, the head being divided and served with French dressing. The heads are often boiled and later stewed in butter, milk and cracker crumbs. The flavor, which is slightly bitter, is the distinguishing characteristic that appeals to the epicure. Pkt., 10c; oz., 25c; 2 oz., 40c; ¼ lb., 75c.

Corn—Sweet

CULTURE—Sweet corn should not be planted deeper than one inch to one inch and a half, as it is liable to rot in the ground, especially if the ground has not become warm. Hoe often, drawing the earth against the stems and break off the side shoots.

First Early



White Cory, Early Minnesota,, Golden Bantam and Howling Mob: Lb., 35c postpaid; at purchaser's expense, lb., 30c; 5 lbs., \$1.25; 10 lbs., \$2.25; 25 lbs., \$5.00; 50 lbs., \$8.00; 100 lbs., \$15.00.

WHITE CORY

EXTRA EARLY—One of the earliest varieties well and favorably known in all parts of the country. It succeeds well where the seasons are short, and can be recommended for general planting. Ears six inches long, with eight rows of broad grains.

EARLY MINNESOTA

—This deservedly popular variety is one of the best second early sorts for the market and the home garden. The stalks are about six feet high, bearing one or two ears well covered with husks. The ears are about 8 inches long, eight rowed; kernels very broad, white, sweet and tender, not shrinking much in drying. By careful selection we have developed a stock of this standard variety which is remarkably uniform and in which all the good qualities that have made this sort so desirable are intensified.

Early Minnesota

GOLDEN BANTAM—Of extreme hardness, this can be planted earlier than any other sweet corn, and will then produce the earliest supply of ears for the table. The stalks grow from three and one-half to four feet in height and produce one or two good ears on each stalk. The ears are about six inches in length, completely filled with eight rows of golden-yellow grains, extending to the rounded tip.

CORN—Continued

QUALITY—The flavor is deliciously distinct, exceptionally rich and sugary, the sweetest of all, superior to that of any other corn. Of all varieties the name "Sugar Corn" seems to fit this best as it is so unusually sweet. The decided preference shown for it in market, restaurant and home has enabled many growers to sell Golden Bantam at a premium.

HOWLING MOB—This variety has become very popular on account of its earliness, and its possessing the sweet flavor of the later varieties. The stalks are of strong vigorous growth, four and one-half to five feet in height, have abundant foliage and generally produce two fine ears to each stalk. The ears measure seven to nine inches in length with twelve or fourteen rows of good-sized pearly-white grains. They are covered with a heavy husk which extends well out from the tip of the ears and affords good protection from the green worms which are so often destructive to early varieties.

White Cory, Early Minnesota, Golden Bantam and Howling Mob: 1 lb., 35c, postpaid; at purchaser's expense, 1 lb., 30c; 5 lbs., \$1.25; 10 lbs., \$2.25; 25 lbs., \$4.75; 50 lbs., \$8.00; 100 lbs., \$15.00.

PEEP O' DAY—For earliness, flavor, sweetness and productiveness it is ahead of any other early white sweet corn. It will prove a money-maker for the market gardener, and a valuable addition to our list of corn for our short western summers.

GRANT GOLDEN BANTAM—See Golden Bantam for general description. Giant Golden Bantam retains the color, flavor and earliness of the regular Golden Bantam, to which may be added the increased size of the ears. It is, therefore readily seen that Giant Golden Bantam corn is far superior to any other sweet-corn on the market, because it possesses qualities not possessed by any other.

Peep O' Day and Giant Golden Bantam: 1 lb., 40c, postpaid; at purchaser's expense, 1 lb., 35c; 5 lbs., \$1.50; 10 lbs., \$2.50; 25 lbs., \$5.25; 50 lbs., \$9.00; 100 lbs., \$17.00.

Medium Early

COUNTRY GENTLEMAN—A favorite second early or main-crop variety with all private gardeners for its tenderness, delicacy, small, deep grains, and sweetness. The ears are of fair size, frequently three or four to the stalk. 1 lb., 40c; at purchaser's expense, 1 lb., 35c; 5 lbs., \$1.50; 10 lbs., \$2.75; 25 lbs., \$5.25; 50 lbs., \$9.00; 100 lbs., \$17.00.

EARLY EVERGREEN—This fine variety yields large, handsome, ten- and twelve rowed ears, averaging about nine inches in length. It is very sweet, has a fine flavor and remains tender a remarkably long time. Both varieties of medium early sweet corn. 1 lb., 35c, postpaid; at purchaser's expense, 1 lb., 30c; 5 lbs., \$1.25; 10 lbs., \$2.25; 25 lbs., \$4.75; 50 lbs., \$8.00; 100 lbs., \$15.00.

LATE

STOWELL'S EVERGREEN—The standard main crop variety, much used for the home garden, market and canning. It is hardy and productive, very tender and sugary, remaining a long time in condition suitable for boiling. This corn is distinguished by the large ear, the long, deep kernels, its rich, sugary flavor and its long keeping qualities. The ears are about seven to eight inches long, fourteen to twenty rowed, with very white grain. The stalks are about seven and one-half feet high. The best known and most largely planted of all the late varieties.

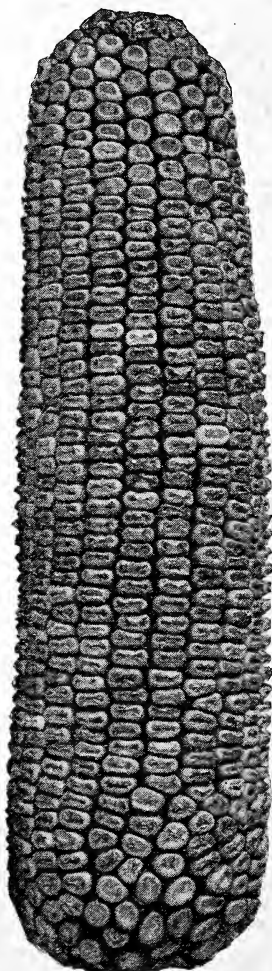
1 lb., 35c, postpaid; at purchaser's expense, 1 lb., 30c; 5 lbs., \$1.25; 10 lbs., \$2.25; 25 lbs., \$4.75; 50 lbs., \$8.00; 100 lbs., \$15.00.

Corn—Field

Corn growing is becoming more and more a staple product in the Northwest and experiments have shown that with carefully prepared fertile soil the difference in seed has made a difference in the yield of double the bushels per acre. It has been fully demonstrated that home grown seed will mature a great deal better than seed secured from the East. We therefore draw special attention to our home grown Minnesota King. Quotations on field corn not guaranteed, and is subject to change.

All varieties of field corn: 1 lb., 25c, postpaid; at customer's expense, 1 lb., 20c; 5 lbs., 75c; 10 lbs., \$1.25; 25 lbs., \$2.50; 50 lbs., \$4.00; 100 lbs., \$7.50; 500 lbs., \$36.25; 1,000 lbs., \$70.00.

Dent, Yellow



Yellow Dent.

MINNESOTA KING (Home Grown)—We regard this corn in some respects as the most valuable early corn for the Inland Empire. It seems to possess a faculty of growing right along and making a crop during weather and under conditions that would ruin other varieties. In appearance the Minnesota King is remarkably distinct, being a half yellow dent; the kernels are very broad and are a rich golden color.

PRIDE OF THE NORTH—This is a standard early variety of corn in the East, but is not sure to mature here. From the fact that it produces a large amount of fodder and being early enough to get in proper condition for ensilage, it has taken the lead over all other corns for this purpose.

MINNESOTA No. 13—The commanding points of excellence which place Minnesota No. 13 Corn at the head of all yellow dent varieties for Northwestern planting are: Its earliness, its enormous productiveness, its adaptability to a great variety of soils and climates. The ears are of handsome appearance, bearing 16 to 20 rows of bright, rich yellow, smooth, wedge-shaped kernels packed closely on the cob from

CORN—Continued

butt to tip. The ears average eight inches in length and are borne usually two on a stalk. No corn excels in quality the Minnesota No. 13; the cobs are well filled and the individual kernels plump and of good color. The stalks grow to a height of seven feet and being leafy make excellent and very nutritious fodder. A variety of corn which shows such valuable characteristics is an acquisition on any farm, especially for planting in the Northwest where early frosts are common.

Dent, White

WISCONSIN EARLY—The stalks grow to an average height of 8 feet and are thickly furnished with foliage close to the ground. The ears are large, with 16 to 20 rows of large, deep kernels, which are closely set on a small white cob.

All varieties of field corn: 1 lb., 25c, postpaid; at customers' expense, lb., 20c; 5 lb., 75c; 10 lbs., \$1.25; 25 lbs., \$2.50; 50 lbs., \$4.00; 100 lbs., \$7.50; 500 lbs., \$36.25; 1000 lbs., \$70.00.

Please note that the prices made on field corn are estimates only and may be changed. If wanting quantity, please write stating variety and quantity wanted, otherwise full value will be forwarded for the full amount of money received.

Sweet Fodder

A great many farmers prefer sweetcorn for the silo and for feed purposes generally, on account of the superior quality of the feed furnished and the amount of saccharine matter contained. Our stock of this shows a germination test of 50 and upward as tested by us in November, 1920. Price, \$6.00 per 100 lbs. Less quantities 7c per lb.

Pop

WHITE RICE—The best corn for popping and for the general market; early, white pointed kernels. 1 lb., 30c, postage paid. At purchaser's expense, 10 lbs., \$2.00.

CRESS

PEPPER GRASS (Curled)—The leaves, when young, have a warm, pungent taste, and are

used as a salad, either alone or mixed with other salad plants. As they are milder and more tender when young, the seed should be sown at intervals of 10 to 15 days, making the first sowing as soon as the ground can be prepared. Pkt., 5c; 1 oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 75c; 1 lb., \$1.25.

WATER—A delicate, pungent salad plant, very agreeable alone or mixed with other salads. Entirely distinct from common cress, thriving only where its roots are submerged. Sow the seed thinly along the banks of any shallow stream early in the spring. Pkt., 10c; oz., 40c; 2 oz., 75c; ¼ lb., \$1.25; ½ lb., \$2.25; 1 lb., \$4.00.

Cucumbers

This is one of the vegetables that can be grown to perfection by any one who can control a few square yards of reasonably good soil that is fully exposed to the sun. Every family should be supplied from its own garden, since the fruit is so much better when gathered fresh from the vines as desired for use than it is in the more or less wilted condition in which it is found on the market.

CULTURE—Plant in hills about four feet apart each way; thin out to four of the strongest plants in each hill; they succeed best in warm, moist, rich, loamy soil. The cucumbers should be gathered when large enough for use, whether required or not; if left to ripen, it destroys their productiveness.

All varieties of cucumbers unless otherwise quoted: Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 75c; 1 lb., \$1.35, postpaid; at purchaser's expense, 1 lb., \$1.25; 5 lbs., \$5.00; 10 lbs., \$9.00.

BOSTON PICKLING—This is a very productive variety that is extensively grown for pickles. The vines are vigorous. The fruits are bright green, of medium size, very smooth and symmetrical. The flesh is crisp and tender.

DAVIS PERFECT—This cucumber has an ideal shape and a beautiful dark green color. Its eating qualities are unsurpassed, both because of its fine flavor and its small number of seeds. On account of its fine flavor, small number of seeds, and its great productiveness it is a general favorite and is highly recommended.

Rydes Calf Meal will enable you to sell your milk and yet raise all your calves.



Boston Pickling

CUCUMBERS—Continued

EARLY CLUSTER—A short, prickly variety; usually growing in clusters. Is a prolific bearer, and one of the earliest; flavor excellent.

EARLY WHITE SPINE—One of the best sorts for trade use, fruiting early and abundantly; fruit uniformly straight and handsome; light green, with a few white spines.

EVERBEARING—This is not only a very early variety but is also extremely prolific. If the fruit is kept gathered, vines will continue in bearing throughout the season. The fruit is of medium size and rich dark green color, average from four to five inches in length by an inch and a half in diameter. Owing to its great productiveness. It is an excellent variety to plant for producing small pickles.

GHERKIN, WEST INDIA—This variety is used exclusively for pickling, a distinct species from the common cucumber. It is a vigorous grower and consequently should be planted 6 feet apart. The fruit is very small, almost round and closely covered with spines.

IMPROVED LONG GREEN

The vines are very vigorous and productive. The fruit is very long, growing frequently from 12 to 15 inches, and are uniformly slender and of a beautiful dark green color. The large warts and spines are well distributed over the surface instead of being clustered at one end as in inferior stocks. This variety furnishes some fruit early but matures the bulk of its crop rather late. It is a standard sort for slicing and is very largely used for pickles. This is probably the most extensively used cucumber for the home garden and market.

JAPANESE CLIMBING—A sort of pole cucumber, its name being due to its tendency to climb and bear its fruit up from the ground, if afforded support; fruit large and thick.

SHORT GREEN, OR EARLY FRAME—A vigorous and productive variety, producing fruit of medium size and regular form; flesh crisp and tender; excellent for the table or pickling.

All varieties of cucumbers: Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 75c; 1 lb., \$1.35; postpaid; at purchaser's expense, 1 lb., \$1.25; 5 lbs., \$5.00; 10 lbs., \$9.00.

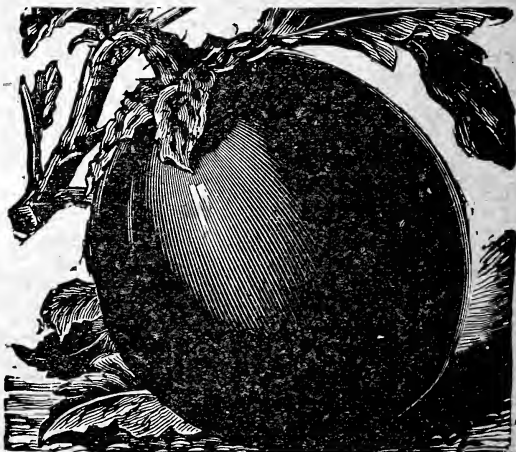
EGG PLANT

CULTURE—Sow in hotbeds very early in the spring; transplant to 2 or 3 feet apart in very rich, warm ground. Do not plant them outside till nights have become warm, as the least frost or cold nights will greatly retard their growth.

BLACK BEAUTY—This beautiful egg plant is 10 days earlier than the New York Improved. The fruit is broad and thick, of most attractive form and does not fade or change to a lighter color at the blossom end. The fruits set freely and are ready for market early, so the crop can be gathered before danger of frost. Pkt., 10c; oz., 60c; 2 oz., \$1.10; ¼ lb., \$2.00; ½ lb., \$3.50; 1 lb., \$6.00.



Improved Long Green



Improved New York

NEW YORK IMPROVED—This is a standard variety, both for market and home garden; a favorite everywhere. Pkt., 10c; oz., 60c; 2 oz., \$1.10; ¼ lb., \$2.00; ½ lb., \$3.50; 1 lb., \$6.00.

Queen Brooder Stoves
are used by more poultry
men than all other stoves
combined.

Our location insures you
prompt service. Our exper-
ience the best seeds and
other goods.

ENDIVE

This is one of the most refreshing and attractive of all autumn and winter salads. It is most appetizing when served mixed with lettuce, with French dressing. Sow seed from middle of June to last of August.

BROAD LEAVED BATAVIAN—Leaves are broad, thick, green, more or less twisted and waved with white mid-ribs. It forms large hearts, which when blanched form one of the best winter salads. Crisp, tender and fine flavor.

LARGE GREEN CURLED—A fine market sort; tender, green leaves; blanch white; hardy.

Both varieties of Endive: Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 75c; 1 lb., \$1.25.

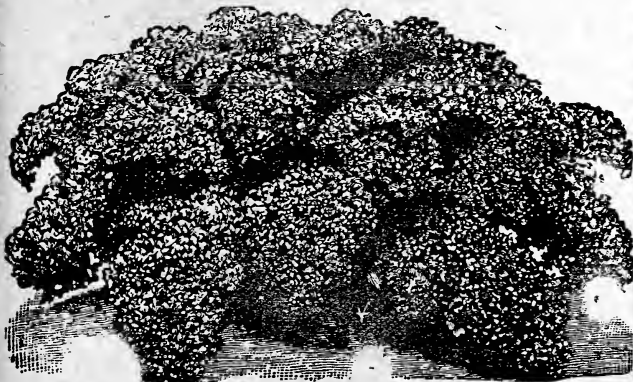
GARLIC

Has a bulbous root, with a strong, penetrating odor and flavor. Belongs to the onion family and cultivated much in the same manner. We cannot offer seed, but can supply the bulbs or sets.

This is extensively used in many places for flavoring soups, stews, etc. The sets should be planted early in spring and treated like onions. 1 lbs., 90c.

KALE OR BORECOLE

Kale, or Borecole, is a kind of cabbage that does not form a close and solid head, but a cluster of beautifully curled or wrinkled leaves that are tender and of excellent flavor. It requires the same treatment as cabbage, and is very hardy, being improved by frost.

**KALE**

DWARF GREEN CURLED SCOTCH—Plant low and compact, with large, bright, deep green leaves, curled, cut and crimped until the whole plant resembles a bunch of moss.

TALL GREEN CURLED SCOTCH—Produces an abundance of dark green, curled leaves. Very hardy.

Both varieties of Kale: Pkt., 5c; oz., 20c; 2 oz., 35c; ¼ lb., 60c; ½ lb., \$1.00; 1 lb., \$1.75.

THOUSAND HEADED—The great demand for this wonderful forage plant proves it to be the most valuable green feed for dairy and stock

men. Endorsed by agricultural colleges and government stations. Pkt., 5c; oz., 10c; 2 oz., 20c; ¼ lb., 30c; ½ lb., 50c; 1 lb., 90c.

KOHL-RABI

The Kohl-Rabi is a vegetable intermediate between the cabbage and turnip, and combines the flavor of each. The edible part is a turnip-shaped bulb. When used for the table this should be cut when quite small, as it is then very tender and delicate, but if allowed to reach its full size it becomes tough and stringy.

EARLY PURPLE

—A very desirable sort for forcing or early out-door

planting. Bulbs are of medium size, purple, flesh white. Very early, with small top, the leaf stems being tinged with purple.

EARLY WHITE VIENNA—Is the earliest and best for forcing; is very tender, excellent for table use.

Both varieties of Kohl-Rabi: Pkt., 5c; oz., 30c; 2 oz., 50c; ¼ lb., 90c; ½ lb., \$1.50; 1 lb., \$2.75.

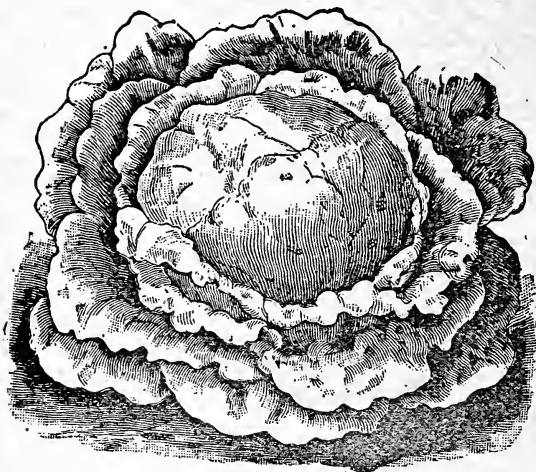
LEEK**London Leek.**

LARGE LONDON, OR SCOTCH FLAG—This leek is generally considered more delicate than the onion for soup, etc. Sow in seedbed middle of spring; when the plants are three or four inches high, transplant them into rows wide enough apart to admit the hoe between them. Pkt., 5c; oz., 25c; 2 oz., 40c; ¼ lb., 75c; ½ lb., \$1.25; 1 lb., \$2.25.

Lettuce

Lettuce to be at its best should be grown rapidly, hence the soil should be made as rich as possible by liberal manuring and thorough preparation.

CULTURE—Sow every month as soon as the ground is open, in drills one foot apart, covering the seeds about one-quarter of an inch deep and thinning out to 6 or 8 inches in the row. For a cut salad sow thicker and do not thin out. Does best in rich, moist soil.



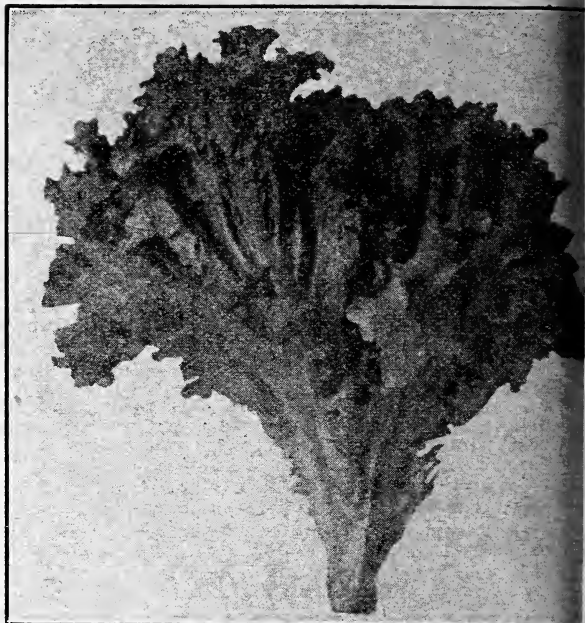
Big Boston

Early and Forcing

BIG BOSTON, (Seed White)—This market variety is very popular for outdoor culture and is also in demand as a compact, large heading, forcing sort for cold-frames. The plants are large, very hardy and vigorous. The leaves are broad, comparatively smooth but wavy at the edge, thin, very hard and crisp. In color they are bright light green, the head slightly tinged with reddish brown. The inner leaves blanch to an attractive greenish white, tinged with light yellow. It heads up under cold weather conditions better than any other variety.

GRAND RAPIDS, (Seed Black)—As a lettuce for greenhouse forcing this variety undoubtedly stands at the head of the list, being of quick growth, little liable to rot and standing for some days after being ready to cut. This plant is upright and forms a loose head or cluster of large, bright leaves, slightly crimped and blistered and rather thin.

Big Boston and Grand Rapids: Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 60c; 1 lb., \$1.00.



Grand Rapids.

LOOSEHEAD OR CUTTING

PRIZEHEAD—Large, loose-headed sort. The leaves are tinged with brown, very heavy.

SIMPSON, (Black Seeded)—Very large, loose heads of curly, golden-yellow, leaves which are thin and tender. It stands summer heat splendidly and is valued for frame culture.

CURLED SIMPSON OR SILESIA—One of the best curled varieties for early sowing out of doors. Very popular with market gardeners and private planters.

Prizehead and Simpson's: Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 60c; 1 lb., \$1.00.

Heading

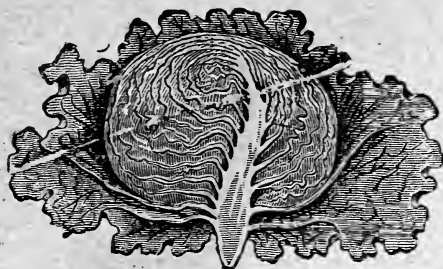
Cream Butter, Hanson and Iceberg: Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 60c; 1 lb., \$1.00.

CALIFORNIA CREAM BUTTER OR ROYAL SUMMER CABBAGE—A very reliable heading sort, with glossy, deep green leaves, the outer ones slightly spotted or splashed with brown. The inner leaves form a large, very solid head, rich light yellow in color, very thick and tender and buttery.

Feed your baby chicks
Rydes Milk Mash and make
them grow into strong,
healthy, vigorous chickens.

Eleven different sizes of
Queen Incubators in stock,
running from 70 to 1000
eggs.

LETTUCE—Continued

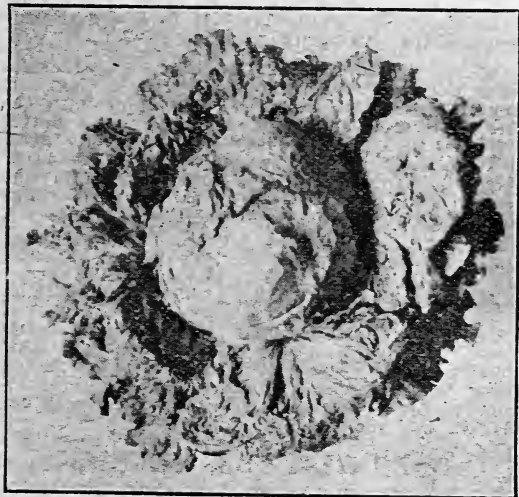


Hanson

HANSON—One of the most desirable later summer lettuces. The plant is compact and forms a large, cabbage-like head which remains in condition longer than most heading sorts. The outer leaves are bright yellowish green, broad, somewhat crumpled and frilled at edge and with distinctive midrib. The inner leaves are white, very crisp and sweet. This thin-leaved, curly, tight-heading sort is very extensively used for the kitchen garden as well as market.

ICEBERG—Has an unusually solid head. The white main ribs of the leaves curve toward the center, which keeps the interior thoroughly blanched. It is quickly growing and always crisp and tender.

Cream Butter, Hanson, Iceberg and Salamander: Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 60c; 1 lb., \$1.00.



New York

NEW YORK OR WONDERFUL—The mammoth heads are solid, heavy, beautifully blanched to a creamy white with bright green outer leaves. The quality is unsurpassed, being tender, crisp and sweet. The New York is a hardy, rapid grower, deep rooted and resistant to drought; a slow seeder and sure to head. Pkt., 5c; oz., 20c; 2 oz., 35c; ¼ lb., 60c; ½ lb., \$1.10; 1 lb., \$2.00.

Cos

PARIS WHITE COS—The Cos Lettuce differs entirely in shape from other varieties, the head being elongated and of conical form, eight or nine inches in height and five or six inches in diameter. The outer coloring of this variety is yellowish green. To be had in perfection it requires: Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 75c; 1 lb., \$1.25.

MUSHROOM SPAWN

With intelligent care and good spawn, mushrooms can be made to pay handsomely. They can be successfully grown in a dry cellar or under the benches of a greenhouse, where the temperature can be kept from 50 to 60 degrees.



LAMBERT'S PURE CULTURE—A new kind of spawn, without doubt the best. It comes in bricks, weighing about 20 ounces. These are broken up into pieces the size of a walnut and put into the bed one foot apart each way. Brick, 50c, postpaid; at purchaser's expense: Brick, 40c; 5 bricks, \$1.75; 10 bricks, \$3.00.

Illustrated book on Mushroom Culture, containing the latest methods of raising, preserving and cooking mushrooms. 15c. postpaid.

Musk Melons

There is not anything more refreshing than a fine flavored musk melon or canteloupe. It may seem strange to some that the selection of the seed should have anything to do with this flavor. There is a flavor peculiar to each distinct variety, and this can only be obtained when the varieties are kept up to their well-known standard, and this can only be done by a careful selection of the melons from which the seed is saved. Our growers have always this thought in mind, hence the seed furnished us by our careful and intelligent growers will give best results on account of its careful selection.

CULTURE—The seed should not be planted until the soil has become thoroughly warmed, about corn-planting time. Plant five or six seeds to the hill, in hills four to six feet apart. Rich soil or well-rotted manure should be used in the hills.

Green-Fleshed Varieties

All varieties of green fleshed musk melons not otherwise quoted: Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 60c; 1 lb., \$1.10; at purchaser's expense, 1 lb., \$1.00; 5 lbs., \$4.50; 10 lbs., \$8.00.

CANTELOUPE, LARGE YELLOW—The fruit is large, oblong, slightly ribbed and coarsely netted. The flesh is light yellowish-green, very sweet, crisp and delicious.

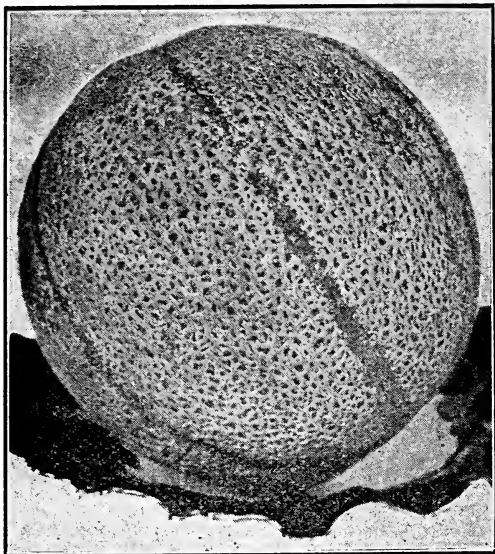
CASSABA—Large oblong melon, well ribbed thin skin, green flesh; prolific and of delicious quality; late maturing; good keeper. Pkt., 5c; oz., 25c; 2 oz., 40c; ¼ lb., 75c; ½ lb., \$1.25; 1 lb., \$2.00.

HACKENSACK EXTRA EARLY IMPROVED—A selection from and an improvement on the old Hackensack, and similar in shape and appearance; nearly as large and fully 10 days earlier; one of the finest for market gardeners; quality perfect.

NUTMEG, EARLY PROLIFIC—Fruit of medium size, slightly ribbed, globular. Skin dark green, becoming yellow when overripe, and nearly covered with broad, shallow netting.

ROCKY FORD OR NETTED GEM—Has attained in an incredibly short time a national reputation. It is of the Netted Gem type, oval in shape, averaging from four and one-half to five inches in length, of a delicious flavor, very fine and smooth grained flesh, of a light green color throughout.

MUSK MELONS—Continued



Rockyford.

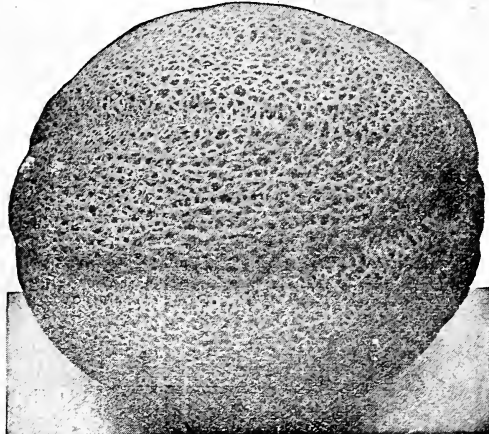
This melon has proved to be very profitable, hence popular on account of its superior quality and its ready sale on the market.

POLLOCK'S RUST-RESISTANT—Mr. Pollock originated the melon bearing his name by selecting seed from a plant which had not rusted out of a field that the rust had destroyed. This point has been observed in selecting stock seed until the melon, while not being perfectly rust-proof, is practically so. The main difference between it and the original Rocky Ford is more uniformity.

All varieties of green fleshed musk melons not otherwise quoted: Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 60c; 1 lb., \$1.10; at purchaser's expense, 1 lb., \$1.00; 5 lbs., \$4.50; 10 lbs., \$8.00.

Salmon-Fleshed Varieties

BANANA—This is a Banana Melon of a banana shape, banana flavor, banana color and banana quality; it resembles the banana in many respects, only that it is very much larger, growing from 18 to 30 inches long and from 4 to 6 inches in diameter. Everybody who is fond of bananas will take pleasure in growing and surely will be delighted with this Melon. Pkt., 5c; oz., 20c; 2 oz., 35c; ¼ lb., 60c.



Burrell Gem

Burrell's Gem, Emerald Gem, Hoodoo, Osage and Paul Rose: Pkt., 5c; oz., 15c; 2 oz., 25c; lb., 40c; ½ lb., 60c; 1 lb., \$1.10; at purchaser's expense, 1 lb., \$1.00; 5 lbs., \$4.50; 10 lbs., \$8.00.

BURRELL GEM—Burrell's Gem has a tough thin rind, well arched ribs, covered with a closely interlaced gray netting; shape elongated, being about 4½ inches in diameter by 6 inches long, flesh of a reddish orange, very thick, fine grained and spicy, seed held firmly in a triangular cavity. This is the secret of a good shipping melon. If the seeds shake loose easily a melon will quickly decay.

EMERALD GEM—This is a variety of excellent quality and of medium size. The skin, white-ribbed, is perfectly smooth and of a deep emerald green color. The flesh is thick and of a deep salmon color, and ripens to the green rind. The flavor is very sweet and luscious. The vines are hardy and very prolific, and the melons mature extremely early.

HOODOO—Sometimes sold as Ordway Queen. This is an orange fleshed variety of medium size, ideal as a shipping melon and a desirable mid-season sort for the home garden. The vines are vigorous, blight-resisting and very productive. The fruits are uniformly of medium size. The netting is exceptionally fine and dense, extending over practically the entire surface. The rind is thin yet very firm, so that the melons arrive in perfect condition in distant markets. The flesh is very thick, firm, highly colored, of fine texture and delicious flavor.

OSAGE OR MILLER'S CREAM—The skin is very thin, of a dark green color and slightly netted. The flesh is of a salmon color, remarkably sweet, extremely thick, and delicious to the rind. It is also very productive. It is a remarkable keeper, and will stand shipping.

PAUL ROSE OR PETOSKEY—A successful cross between the Osage and Netted Gem. It combines the sweetness of the former with the fine netting of the Gem, and is even a better shipper than that variety. The melons grow uniform in shape and size. The flesh is remarkably thick, making the melons very solid and heavy, and of a beautiful salmon or orange color; delicately sweet and melting.

Burrell's Gem, Emerald Gem, Hoodoo, Osage and Paul Rose: Pkt., 5c; oz., 15c; 2 oz., 25c; lb., 40c; ½ lb., 60c; 1 lb., \$1.10; at purchaser's expense, 1 lb., \$1.00; 5 lbs., \$4.50; 10 lbs., \$8.00.

GARDEN LEMON—The fruit is short, nearly round with yellow and green markings; skin smooth, flesh very tender and of sweet flavor. Best when turning yellow. Specially recommended for preserves. Pkt., 5c; oz., 20c; 2 oz., 35c; ¼ lb., 60c.

SPECIAL MUSK MELONS

We call special attention to the three following types of melons. Melons, like a great many other things, have undergone a great improvement in type and quality, but none any more so than the following types:

CLOVER LEAF GOLD LINED ROCKY FORD—Regarding this melon our grower says: We have carefully inspected every strain and type of Rocky Ford Cantaloupe, and we believe this to be the very best type, for all purposes, that there is in existence. It is an ideal crate melon, as fruits grow uniform, and loss from undersize and oversize is very small, and its quality can not be excelled. Medium size, solid net, gold lined or inner lining of yellow, small seed cavity, excellent quality, vines hardy, thrifty and rust-resistant.

Pkt., 5c; oz., 20c; 2 oz., 30c; ¼ lb., 50c; ½ lb., 85c; lb., \$1.50.

ROCKY FORD PINK MEAT—The Pink Meat Rocky Ford is the same general type of melon in appearance as the Gold Lined, with netting

MUSK MELONS—Continued

a trifle finer. Better shipper than the old type green fleshed Rocky Ford. Flesh pink and of excellent flavor. The Pink Meat Rocky Ford Cantaloupe has become very popular in the last two or three years. Its shipping qualities are excellent, quality all that can be desired, and we believe is destined to be very popular. Pkt., 5c; oz., 20c; 2 oz., 30c; ¼ lb., 50c; ½ lb., 85c; 1 lb., \$1.50.

HONEY DEW

It is as sweet as honey and has the mingling of several flowers—pineapple, banana and vanilla predominating.

The average size of the melon is six inches in diameter and seven to eight inches in length, weighs five to six pounds. The skin is smooth with an occasional net, is a creamy yellow when ripe. The flesh is an emerald green, very thick, melting, and very fine grained, can be eaten to the extreme rind. The seed cavity is very small, the rind impervious to water, the melon does not shrink in weight, is not easily bruised and is a splendid shipper.

It matures about ten days later than the Rocky Ford, is very prolific and will keep for several weeks if picked a short time before it is fully matured.

Pkt., 5c; oz., 20c; 2 oz., 35c; ¼ lb., 55c; ½ lb., \$1.00; 1 lb., \$1.75.

Watermelons

Watermelon seed, like all other seeds, should be selected from true types and from melons that have attained a large growth and ripened early. This method will produce and preserve true strains, while the generally followed plan of saving seed from all melons in a field without reference to size, shape, or time of ripening, will cause types and quality to deteriorate. Our growers give a great deal of time, thought and care to the thorough selection of the seed furnished us. Under these conditions we are obliged to pay a higher price for the seeds

we secure than we would for ordinary seed, but we have the great satisfaction of knowing that we are supplying our customers with a very much higher grade of seeds than is usually supplied by seed houses.

CULTURE—Watermelons thrive best on light, well drained soils, but give good results on any good rich garden soil that is properly drained and cultivated. Plant after the weather is settled and ground warm. Hills should be eight feet apart each way and with well rotted manure thoroughly worked into each hill.

All watermelons not otherwise quoted: Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 60c; 1 lb., \$1.10; at purchaser's expense, 1 lb., \$1.00; 5 lbs., \$4.00; 10 lbs., \$7.00.

CUBAN QUEEN—A very fine variety, growing to a great size; flesh bright red, solid and sweet. The skin is beautifully striped, dark and light green.

FLORIDA FAVORITE—Oblong in shape, and growing to a very large size; rind dark, with light green stripes; flesh light crimson, crisp and deliciously sweet.

FORDHOOK EARLY—An extra early watermelon of large size. The rind is tough, making it desirable for shipping purposes. Flesh is light red and is very sweet.

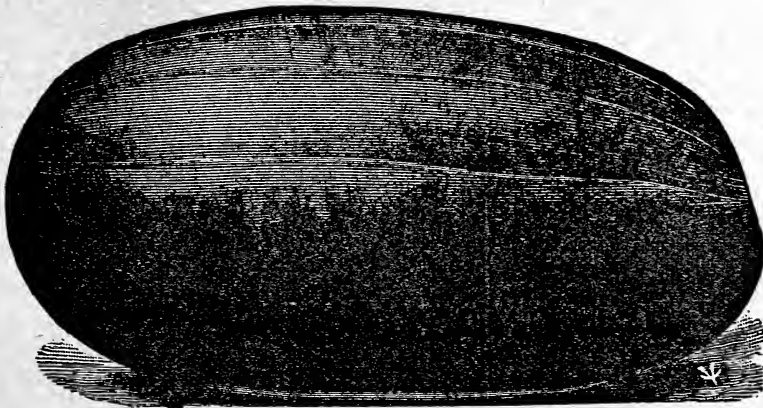
HALBERT HONEY—An exceedingly sweet and deliciously flavored melon, similar in size and shape to Kleckley's Sweet. It is of handsome, long, oval shape, averaging about 18 inches in length, and about six inches in diameter. The skin is an attractive, very dark green, the flesh is of a beautiful bright red, extending almost to the outer rind. The rind, too, is so thin and brittle that it cracks open very easily and will not stand hauling or shipping long distances.

ICE CREAM OR PEERLESS—One of the best melons in cultivation. Rind thin, light mottled green. Flesh bright scarlet; solid to the center, sweet as honey.

KLECKLEY'S SWEET, OR MONTE CRISTO—This is one of the best flavored melons in cultivation, and of a shape and color that is extremely desirable. The rind is very dark green, very thin, flesh deep scarlet, fine, and of delicious quality. For the home market and family garden it is decidedly one of the best.

Attractive red color, crisp, sweet and delicious. The heart is large with no core. The appearance and quality of this melon make it desirable for both home and market use.

KOLB'S GEM—Is Very large, slightly oval, striped with light and dark green. Rind very hard and firm. Flesh bright red, solid, coarse grained, but tender and sweet.

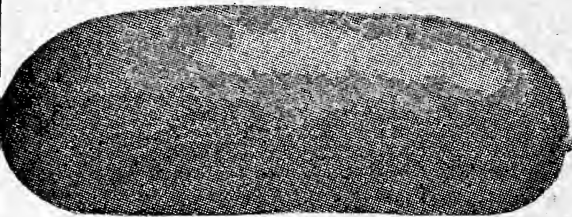


Kleckley's Sweet

Rydes Calf Meal will enable you to sell your milk and yet raise all your calves.

WATERMELONS—Continued.

McIVER'S OR WONDERFUL SUGAR—Ob-long in shape; size uniformly large; handsome appearance; skin shows broad bands of white, shading into narrower bands of dark green; quality is superior, flesh is soft pale pink, crisp, free from any stringiness, and juicy. The melons have a solid heart, free from cracks, while the seed rows are close to the rim.



Tom Watson

TOM WATSON—A large, long melon similar in shape and color to the Klechley's Sweet and possessing the same delicious flavor and quality, but averaging larger in size and with a tougher rind, making it especially adapted for shipping to distant markets. The vines are vigorous and productive. The flesh is rich red, sweet and tender. Seed white, more or less marked with brown. Wherever grown it has become very popular as a shipping sort. There has been an increasing demand of late for a better quality of shipping melon and this demand has been met in most exceptional degree by the Tom Watson.

CITRON—For preserving; grows uniformly round and smooth; striped and marbled with light green; flesh white and solid.

All watermelons not otherwise quoted: Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; c lbs., 60c; 1 lb., \$1.10; at purchaser's expense, 1 lb., \$1.00; 5 lbs., \$4.00; 10 lbs., \$7.00.

MUSTARD

MUSTARD is used alone as "greens" or with cress as salad. Sow any time in the spring, in rows.



SOUTHERN GIANT CURLED—The leaves are large, light green with tinge of yellow, much crimped and frilled at edges. The plant is upright or slightly spreading in growth.

WHITE ENGLISH—The leaves are comparatively small and smooth, deeply cut or divided and of medium dark green color. The plant is upright, of rapid growth and soon bolts to seed. The leaves, when young, are mild and tender.

Both varieties of mustard: Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 60c; 1 lb., \$1.10.

OKRA OR GUMBO

The long, tender pods of Okra are very delicious when sliced and cooked in soups. While this is its chief use, it is also boiled and served like other vegetables. The dwarf sorts may be planted in hills or in rows about three feet apart. Plant in any good soil about May 15. The pods should be gathered when very young, as they are then very tender.

An early dwarf prolific variety with thick green pods.

DWARF GREEN—Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 60c; 1 lb., \$1.10.

Onions

The Onion is one of the most extensively used of all vegetables. It not only contains considerable nutriment and has valuable medicinal properties, but is most useful in counteracting the bad effects of sedentary life.

It is readily seen that there is a great variety and diversity in the shape, color, size, and flavor of onions, also in their keeping qualities. The keeping is due in some respects to the different varieties, but the care bestowed upon the selection of the bulbs of the various varieties has much to do to improve their keeping qualities. The time and labor given to this special care and attention adds to the cost, but it is well worth the additional cost to the planter, as it insures better keepers, more uniform type; also a greater yield. Our bulbs and seeds receive the necessary care to insure better results.

CULTURE—Onions do best on a rich loam, previously cultivated for two years. The land should be highly fertilized with well-rotted manure, or complete fertilizers. Culture should be frequent, though shallow. The same ground may be used for onions season after season, if well fertilized annually. Bone meal is an excellent fertilizer.

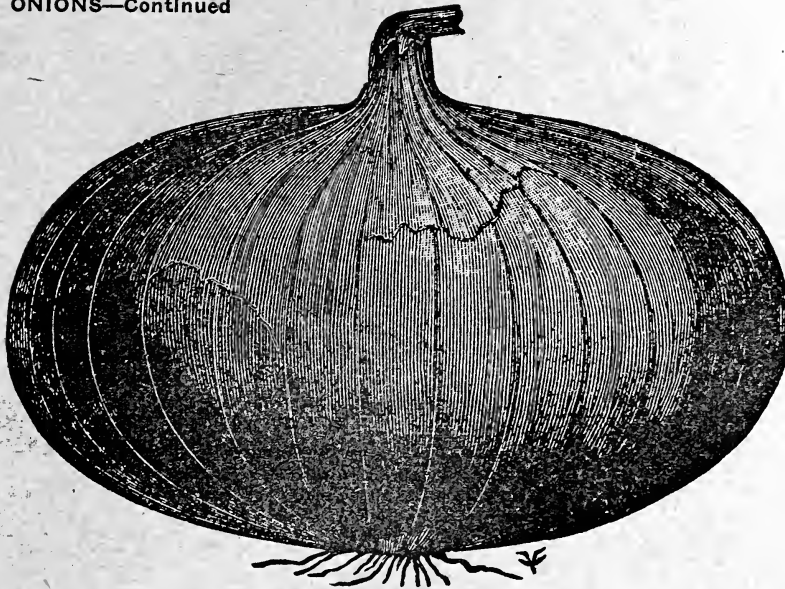
Brown

AUSTRALIAN—Of medium size. Wonderfully hard and solid, the bulbs are most attractive for market, both as to form and appearance. The color of the skin is a clear amber brown. Specially noted as a long keeper as it keeps well into spring and much longer than any other varieties. Pkt., 5c; oz., 20c; 2 oz., 35c; ¼ lb., 60c; ½ lb., \$1.00; 1 lb., \$1.75.

Red

LARGE RED WETHERSFIELD—This is the standard red variety and a great favorite. It is very extensively grown for home garden use as well as the market. The bulbs are large and are flattened yet quite thick. The skin is deep purplish red. The flesh is light purplish white, moderately fine grained, rather strong but of pleasant flavor. The variety is very productive, one of the best keepers and very popular for general cultivation. This medium early or main crop variety does best on rich, moderately dry soil, but on low muck land it is more apt to no better sort for poor and dry soils. Pkt., 5c; oz., 25c; 2 oz., 40c; ¼ lb., 70c; ½ lb., \$1.15; 1 lb., \$2.00.

ONIONS—Continued

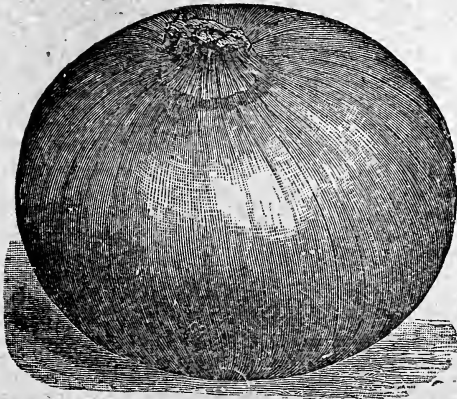


Red Wethersfield

Yellow

DANVERS—YELLOW FLAT—The leading large yellow kind, round, slightly flattened, flesh fine-grained, rather mild, very rich and sweet; one of the best keepers and shippers, and one of the most productive kinds. Pkt., 5c; oz., 20c; 2 oz., 35c; ¼ lb., 60c; lb., \$1.00; 1 lb., \$1.75.

DANVERS—YELLOW GLOBE—This onion is the standard winter sort in many markets. The shape is almost globe form and the bulbs are quite large, with thin necks, ripening down well. The skin is a fine brown orange yellow, while the flesh is pure white, solid and of good quality. Its keeping qualities are of the best and its earliness makes it valuable for market. Pkt., 5c; oz., 25c; 2 oz., 40c; ¼ lb., 70c; ½ lb., \$1.15; 1 lb., \$2.00.



Yellow Danvers

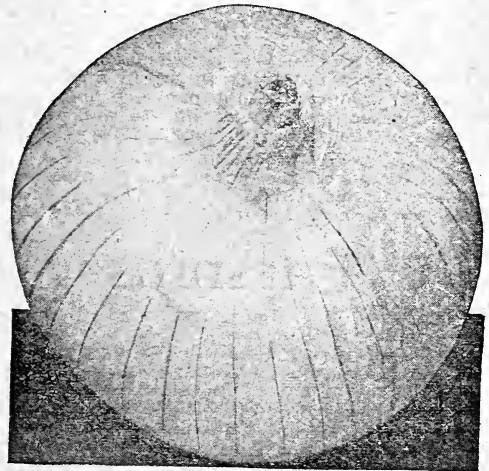
MAMMOTH PRIZETAKER—A very handsome late or main crop onion of the largest size and nearly globular in form, usually with shoulder and base slightly sloping. The skin is yellowish brown or light yellow with slight tinge of brown. The flesh is creamy white, very mild, tender and of excellent flavor. The variety keeps well if thoroughly ripened and is very desirable for shipping for fall and early winter use. It is one of the best of the large European sorts that has

Feed your baby chicks Rydes Milk Mash and make them grow into strong, healthy, vigorous chickens.

become thoroughly acclimated in America and is exceptionally productive under proper conditions.

Pkt., 5c; oz., 25c; 2 oz., 40c; ¼ lb., 70c; ½ lb., \$1.15; 1 lb., \$2.00.

White



Silver Skin

PORTUGAL OR AMERICAN SILVER-SKIN—One of the leading white sorts, beautiful shape and mild flavor. The bulbs are flat in shape and mature early. Handsome in appearance, with a clear white skin as beautiful as glistening silver. The flesh is of mild delicious flavor. It is largely used for growing sets on account of its fine shape when small, and also for its good keeping qualities. It is also extensively used as a pickling onion, for which purpose it is well adapted. Pkt., 5c; oz., 25c; 2 oz., 40c; ¼ lb., 75c; ½ lb., \$1.25; 1 lb., \$2.50.

SOUTHPORT GLOBE—The superior quality of this wonderful variety is famed the world over. Its mild, delicious flavor and exceptionally attractive appearance have won great prom-

ONIONS—Continued

inence. It is a most beautiful onion, of superb eating quality. Handsome, white globe shaped, flesh fine and very white, rich and sweet. It is also one of the best keepers of the silver skinned varieties. A veritable ball of silver, with thin, delicate, pure white skin. It will average from 2 to 2½ inches in diameter, and produces large yields. As soon as harvested they should be stored away in a cool, dark shed to keep them from discoloring. Pkt. 5c; oz., 30c; 2 oz., 55c; ¼ lb., 90c; ½ lb., \$1.50; 1 lb., \$2.75.

SETS

BOTTOM SETS—Are grown from seed that has been sown too thick to attain a large size. The small onions thus obtained are planted out, and are ready in a short time to pull as green onions for the table or bunched for the market.

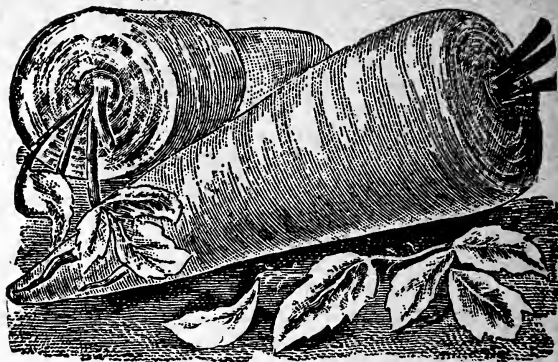
YELLOW—Lb., 25c, postpaid. At purchaser's expense, 10 lbs., \$1.50. For large quantities, write for prices, stating quantity wanted.

Parsnips

The value of the Parsnip as a culinary vegetable is well known but is not generally appreciated at its full value for stock feeding. On favorable soil it yields an immense crop of roots, more nutritious than turnips and very valuable for dairy stock.

CULTURE—Parsnips do the best in rich, deep soil, but will make good roots on any soil which is deep and mellow and moderately rich. As the seed is sometimes slow to germinate, it should be sown as early as possible.

IMPROVED GUERNSEY (Improved Half-Long)—A greatly improved and wonderfully fine strain of Guernsey parsnip. It is a very heavy cropper. The roots are very smooth, the flesh is finely grained and of most excellent quality.



LONG SMOOTH OR HOLLOW CROWN (Abbott's Improved Long Sugar or Long White Dutch Parsnip)—A great cropper; tender, sugary and considered the best for general cultivation. Parsnips are improved by remaining exposed to the frost.

Both varieties of parsnips: Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 60c; 1 lb., \$1.10 at purchaser's expense, 1 lb., \$1.00; 5 lbs., \$4.00; 10 lbs., \$7.00.

PARSLEY

Very useful for flavoring soups, meats and for garnishing. The green leaves are used for flavoring.

EXTRA DOUBLE CURLED—A compact grower, finely cut and much curled variety of bright green color. Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 60c; 1 lb., \$1.00.

PEANUTS

The peanut thrives and produces best on a light, sandy, fertile soil with a good clay subsoil. It possesses a long tap-root which extends deep into the earth. Lb., 50c, postpaid.

Write us when in need of information. We want to serve you. Use our free information bureau.

Rydes Calf Meal is a complete food for calves and is the most successful milk substitute on the market.

Peas, Garden

Our peas are grown in the Inland Empire under our own supervision and have been very carefully rogued by us, thus insuring peas of the very best possible type. They have been grown by men of experience and in the very choicest places of the Inland Empire.

Extra Early

ALASKA OR EARLIEST OF ALL—Earliest and best of all of the blue smooth varieties. A smooth, blue pea, which in evenness of growth of vine and early maturity of pods is unequaled by any other pea. Vines two to two and one-half feet high. A great favorite with our market gardeners for fall and early spring planting. Lb., 30c, postage paid; at purchaser's expense, lb., 25c; 5 lbs., \$1.25; 10 lbs., \$2.00; 25 lbs., \$4.25; 50 lbs., \$8.00; 100 lbs., \$15.00.

American Wonder, Little Gem and Pilot: Lb., postpaid, 40c; at purchaser's expense, lb., 35c; 5 lbs., \$1.50; 10 lbs., \$2.75; 25 lbs., \$6.00; 50 lbs., \$10.00; 100 lbs., \$18.00.

AMERICAN WONDER—The earliest and best of the wrinkled sort. A great favorite for family use. Has stout, branching vines about 10 or 12 inches high, and covered with well-filled pods, containing sweet, tender and well-flavored peas.

LITTLE GEM, McCLEAN'S—The vines grow about 18 inches in length, producing well-filled pods of from 2½ to 3 inches long. The peas are green, wrinkled, sweet and delicious.

"PILOT"—EXTRA EARLY—The Pilot is "far and away ahead" of all other early round-seeded first-early peas. The pods and peas are nearly as large as those of Gradus, as early as the best selected small smooth-seeded extra-earlies. They can be planted much earlier than Gradus, and while not wrinkled, the peas are almost equal in flavor. The vines, of vigorous growth, attain a height of three feet and bear a large proportion of pods in pairs. Our stock is very limited.

American Wonder, Little Gem and Pilot. Lb., 40c, postpaid; at purchaser's expense, lb., 35c; 5 lbs., \$1.50; 10 lbs., \$2.75; 25 lbs., \$6.00; 50 lbs., \$10.00; 100 lbs., \$18.00.

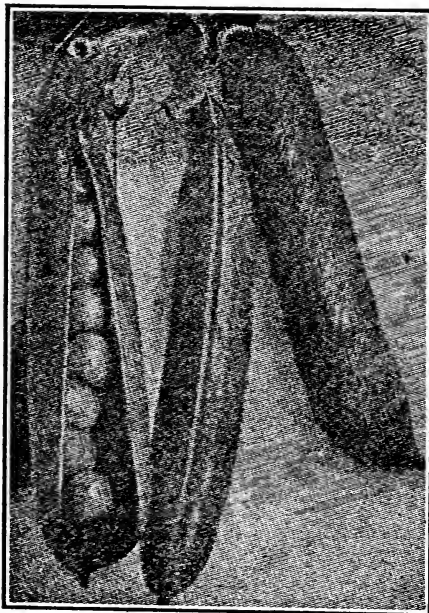
THE BEST FIRST EARLY WRINKLED PEA—At the urgent request of one of our best gardeners we are listing **Blue Bantam Peas**. This particular and up-to-date gardener has been growing these for a number of years with most excellent results. He has been saving his own seed and we have been fortunate enough to secure a limited supply.

THE BLUE BANTAM is unequaled for combination of extreme earliness, superb quality, and unusual productiveness. The dwarf vigorous vines average fifteen inches in height and carry really enormous crops of large, deep bluish-green pods. The pods measure four to four and one-half inches long and are tightly packed with eight to ten large, deep bluish-green peas of most luscious flavor. Lb., 45c, postpaid; at purchaser's expense, 1 lb., 40c; 5 lbs., \$1.75; 10 lbs., \$3.25.

Second Early

Gradus, Telephone and Thomas Laxton: Lb., 45c, postpaid; at purchaser's expense, lb., 40c; 5 lbs., \$1.75; 10 lbs., \$3.25; 25 lbs., \$7.00; 50 lbs., \$12.00; 100 lbs., \$22.00.

GRADUS—This bears pods of large size, and combines quality with earliness. It is very hardy, can be planted fully as early as the smooth peas; grows vigorously and healthy; pods are large, well filled, containing 7 to 9 peas; vines two and a half feet in height; very prolific. The quality and flavor are delicious and the peas remain tender and sweet for a long time.



Gradus

TELEPHONE, DWARF—Produces handsome long pods. A great favorite with our market gardeners. Immensely productive, of the finest quality and excellent sugary flavor; vines very strong, growing from 18 to 24 inches high. The pods are of large size, filled with large, delicious peas.



Thomas Laxton

PEAS—Continued.

THOMAS LAXTON—This is a very early wrinkled variety of great merit. The vines are vigorous, of medium height, about three feet, similar to those of Gradus, but darker in color, hardier and more productive. The pods are large, often four inches long, with square ends, well-filled. The green peas are very large, of fine deep color and unsurpassed in quality. One of the very best sorts for the market and home garden.

Gradus, Telephone and Thomas Laxton: Lb., 45c, postpaid; at purchaser's expense, 40c; 5 lbs., \$1.75; 10 lbs., \$3.25; 25 lbs., \$7.00; 50 lbs., \$12.00; 100 lbs., \$22.00.

MARKET GARDEN—HORSFORD'S—This variety strongly resembles the Gem in habit of growth, but is about one-third taller. Foliage dark green, pods light colored and straight, about 2½ inches long and blunt. Vines grow from 26 to 30 inches long. Seed green, of medium size. A very popular pea both with canners and market gardeners on account of its excellent quality. Pods grow mostly in pairs and are therefore quickly and easily picked. Lb., 40c, postpaid. At purchaser's expense, lb., 35c; 5 lbs., \$1.50; 10 lbs., \$2.50.

Late

MELTING SUGAR—The kind that has sweet, broad pods, and are used the same way as snap and string beans. This is the most popular of the edible podded varieties. The pods are large, straight, very tender and finely flavored. Vines medium height.

Lb., 50c, postpaid; at purchaser's expense, 1 lb., 45c; 5 lbs., \$2.00; 10 lbs., \$3.50.

See page 64 for Canadian, Bangalias and Cow Peas.

Peppers

CULTURE—Sow the seed early in hotbeds, or later, when the weather becomes warm, in open beds; when two or three inches high, transplant to a warm, mellow soil, in rows eighteen inches apart at one foot apart in the row.



Chinese Giant

CHINESE GIANT—An enormous fruiting variety, double the size of Ruby King, averaging 12 to 15 inches in circumference. Notwithstanding

its large size, it is very early and very prolific. Plants are healthy, well branched, about two feet high and carry an enormous load of fruit, often having the appearance of being bunched together. Flesh is thick, tender, mild and sweet, and is unexcelled for salad or stuffed as mangoes. They can be sliced and eaten like tomatoes. When ripe the peppers are a rich, glossy scarlet, making them of unusually fine appearance. Pkt., 10c; oz., 90c; 2 oz., \$1.60; ¼ lb., \$3.00.

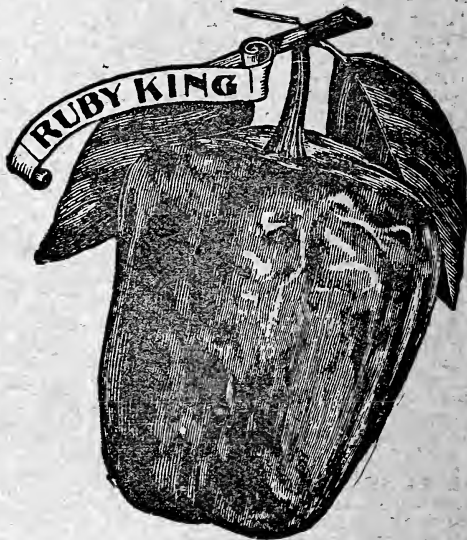
All varieties of peppers not otherwise quoted: Pkt., 10c; oz., 75c; 2 oz., \$1.25; ¼ lb., \$2.25.

LARGE BELL OR BULL NOSE—Sometimes called Sweet Mountain. The plants are vigorous, about two feet high, compact and very productive, ripening their crop uniformly and early. The fruits are large, growing from three to four inches in length, with thick, mild flesh of excellent quality for use in salads and mangoes, or stuffed peppers. The color is deep green when fruit is young, bright crimson when ripe.

LONG RED CAYENNE—Brilliant coral-red pods, three or four inches long, and a prolific bearer; very pungent and used very largely with pickles when green.

NEAPOLITAN—This pepper is not only early but is also a very heavy yielder. It matures about two weeks earlier than the Bull Nose, and is considered one of the largest peppers in cultivation.

RED CHILI—Small, bright red peppers, very hot and pungent, and generally used for making "pepper sauce"; very prolific.



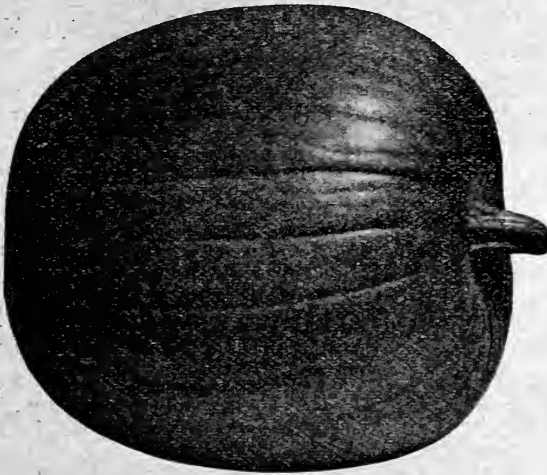
RUBY KING—Very large and attractive. The plants are about two and one-half feet high, vigorous, compact and productive. The fruits are often four to four and one-half inches long and of deep green color when young, bright red when ripe. The flesh is thick and mild flavored. One of the best varieties for mangoes or stuffed peppers.

All varieties of Peppers not otherwise quoted: Pkt., 10c; oz., 75c; 2 oz., \$1.25; ¼ lb., \$2.25.

Rydes Milk Mash is the best for young chicks.

Pumpkins

CULTURE—Sow in good soil, when the ground has become warm, in hills eight or ten feet apart each way, or in fields of corn about every fourth hill.

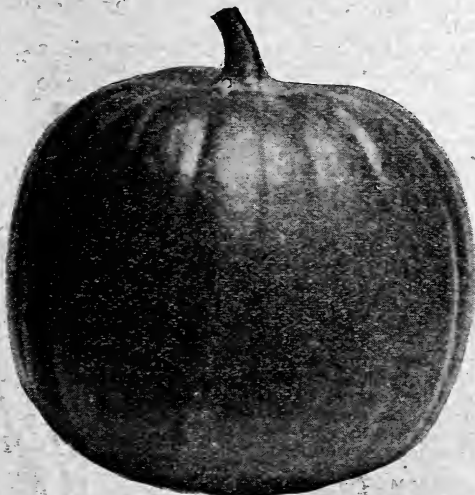


Connecticut Field

All pumpkins not otherwise quoted: Oz., 15c; 2 oz., 25c; 1/4 lb., 35c; 1/2 lb., 60c; 1 lb., \$1.10; at purchaser's expense, 1 lb., \$1.00; 5 lbs., \$4.50; 10 lbs., \$8.00.

CONNECTICUT FIELD—A productive, large, orange-colored field pumpkin, usually grown for stock feeding, but it makes good pies.

KENTUCKY FIELD OR LARGE CHEESE—Fruit flattened, the diameter being two or three times more than the length. Skin mottled light green and yellow, changing to rich cream color as it matures; flesh tender and of excellent quality.



Early Sugar

SUGAR—This variety is small, but of most excellent quality for pies. Fruits deep orange, eight to ten inches in diameter, round or somewhat flattened and slightly ribbed. Flesh rich deep yellow, fine grained and very sweet. All pumpkins not otherwise quoted: Pkt.,

5c; oz., 15c; 2 oz., 25c; 1/4 lb., 35c; 1/2 lb., 60c; 1 lb., \$1.10; at purchaser's expense, 1 lb., \$1.00; 5 lbs., \$4.50; 10 lbs., \$8.00.

MAMMOTH PRIZE—The largest pumpkin grown; has attained a weight of 235 pounds. If you wish to see just how large a pumpkin can grow, try the Mammoth Prize. The quality is excellent. Pkt., 5c; oz., 20c; 2 oz., 30c; 1/4 lb., 50c; 1/2 lb., 85c; 1 lb., \$1.60; at purchaser's expense, lb., \$1.50; 5 lbs., \$7.00; 10 lbs., \$13.00.

RADISHES

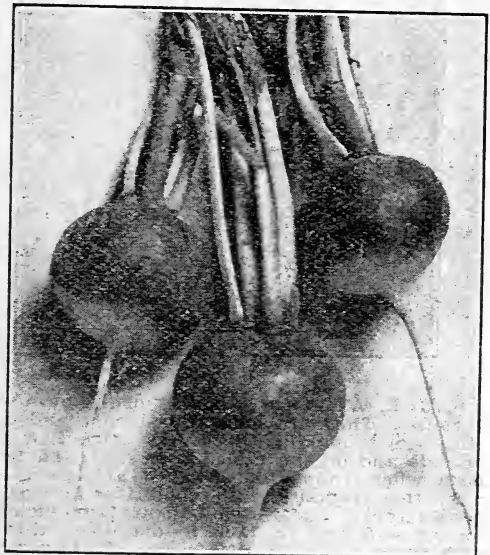
Is there any more appetizing vegetable than the radish? In the spring we welcome the early, so-called cherry-stone radishes, and during the summer and fall we all enjoy the delicious long and olive-shaped varieties. Radishes are delicious during the entire season if successive sowings are made. There is not a month from April to November that you need be without Radishes. If you have a hot-bed, they can be grown every month in the year.

CULTURE—For open ground culture sow in rich, sandy soil as soon in the spring as it is fit to work, in drills 12 to 18 inches apart and thin out the plants to prevent crowding. A good dressing of nitrate of soda will greatly stimulate growth and insure tender, brittle roots.

Turnip-Rooted, Early

CRIMSON GIANT—The largest early scarlet turnip-shaped radish. A very early radish, double the size of any of the other early turnip-shaped type, but notwithstanding its immense size, does not get hollow and pithy. The flesh is a sparkling white, solid, crisp and juicy, and of the mildest flavor. Excellent for both forcing and open ground.

SCARLET GLOBE—Similar in form to the Scarlet Turnip-Rooted, but much darker in color; flesh white, very crisp and tender, top small, well adapted for growing in frames.



Scarlet White Tipped.

SCARLET, WHITE TIPPED—The favorite variety for outdoor cultivation; medium size, uniform shape; color bright scarlet, with white

PUMPKINS—Continued.

tip, which makes it most attractive. It grows quickly; flesh white, crisp and of the best quality.

The three foregoing varieties: Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 60c; lb., \$1.10. At purchaser's expense, lb., \$1.00; 5 lbs., \$4.50; 10 lbs., \$8.50.

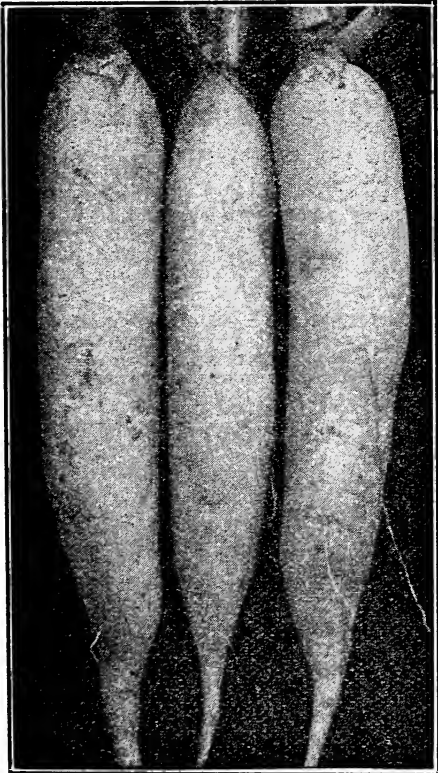
Olive Shaped, Medium Early

FRENCH BREAKFAST, OR HALF-LONG WHITE TIPPED—Medium size, of quick growth. crisp and tender; terminates more abruptly than the Half-Long Scarlet, lower end of tap root white. Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 60c; 1 lb., \$1.10. At purchasers' expense, lb., \$1.00; 5 lbs., \$4.50; 10 lbs., \$8.50.

Long, Late

Chartier, Icicle, Long Scarlet and Strasburg: Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 60c; lb., \$1.10. At purchaser's expense, lb., \$1.00; 5 lbs., \$4.50; 10 lbs., \$8.50.

CHARTIER, IMPROVED—Roots long, tapering rather abruptly and attaining a very large size. Of rapid growth, it is soon ready for the table, remaining crisp and tender until fully grown. Color, scarlet above, shading into white at the tip. Flesh white and mild flavored.



White icicle

ICICLE, WHITE—The finest of the pure white varieties. They are long and slender and clear, pure white, making them very attractive when on sale and on the table. It is crisp and tender both when young and until it attains a large size, thus remaining in condition for use for considerable time. Roots grow four inches in length and half an inch in diameter; they retain their crispness and fresh mild flavor until fully six inches long and an inch in diameter.

LONG SCARLET, RED—The leading variety either for the family or market garden. From six to eight inches long, standing nearly half above the ground; bright scarlet, smooth, crisp, tender and mild.

STRASSBURG, WHITE—Of handsome, oblong, tapering shape, both skin and flesh being pure white. The flesh is firm, brittle and tender and retains its crispness even if old and large. Excellent for summer use. Very popular because it remains fit for use a long time and does not get pithy. Sometimes called the Sandwich radish.

Chartier, Icicle, Long Scarlet and Strasburg: Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 60c; lb., \$1.10. At purchaser's expense, lb., \$1.00; 5 lbs., \$4.50; 10 lbs., \$8.50.

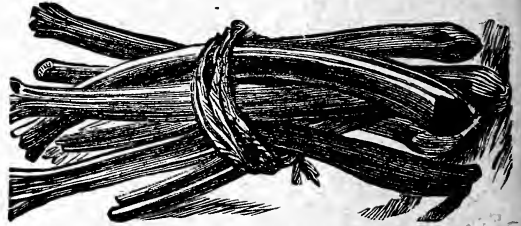
Winter

BLACK SPANISH, LONG—Very hardy and good for winter use. Will keep good all winter. The roots, which present a rusty, black appearance, are large, firm and not liable to become pithy.

CHINA ROSE—One of the best fall and winter varieties. Half-long shape; upper part bright crimson, shading to white. Flesh white, firm, tender and of superior quality.

CALIFORNIA MAMMOTH, OR WHITE CHINA—Very large and cylindrical, terminating abruptly with little tap-root; mild and tender, and keeps well all winter. The skin and flesh are of a transparent white.

All varieties of winter radishes: Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 60c; 1 lb., \$1.10. At purchaser's expense, lb., \$1.00; 5 lbs., \$4.50; 10 lbs., \$8.50.

RHUBARB OR PIEPLANT

CULTURE—Sow in drills an inch deep, and thin out the plants to six inches apart. Transplant the young plants, setting them four to six feet apart each way. The stalks should not be plucked until the second year, and the plant never allowed to exhaust itself by running to seed.

VICTORIA OR MAMMOTH—Very large; the finest cooking variety. Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 60c; 1 lb., \$1.00.

SALSIFY OR VEGETABLE OYSTER

CULTURE—Sow early and quite deep, giving the general culture recommended for parsnips. The roots are perfectly hardy, and may remain out all winter, but should be dug early in the spring, as they deteriorate rapidly after growth commences.

MAMMOTH SANDWICH ISLAND—Of superior quality. Pure white. Very meaty and of fine flavor. Grows uniformly large. Pkt., 5c; oz., 25c; 2 oz., 40c; ¼ lb., 75c; ½ lb., \$1.25; lb., \$2.25.



SPINACH

CULTURE—It is one of the most easily managed of all vegetables, requiring but little culture. For spring and summer use sow broadcast or in drills as early as possible. Then sow at intervals for successive crops. For very early spring, use it is sometimes sown in August or September, protecting it slightly during the winter.



LONG STANDING—An improved variety, slow going to seed, and perhaps the best for general use.

THICK LEAVED, IMPROVED—A variety which grows very rapidly, forming a cluster of large, very thick, slightly savoyed leaves of fine color and quality when cooked. Best for market gardeners.

Long Standing and Thick Leaf: Pkt., 5c; oz., 10c; 2 oz., 15c; ¼ lb., 25c; ½ lb., 45c; lb., 80c; at purchaser's expense, lb., 75c; 5 lbs., \$3.00; 10 lbs., \$5.00.

NEW ZEALAND—Unlike the common spinach in type in that it thrives during hot weather and in any soil, rich or poor. The tender shoots are of good quality and may be cut throughout the summer. The plant becomes very large and spreading. The leaves are comparatively small, broad and pointed. Plant three or four seeds in hills two feet apart each way. Germination of the seed can be hastened by soaking in warm water twenty-four hours. Pick the leaves from the stem, cooking these and you will have delicious greens all summer. It is tender and will not withstand frost. Pkt., 5c; oz., 15c; 2 oz., 30c; ¼ lb., 50c; ½ lb., 85c; lb., \$1.50.

Squash

CULTURE—Delay sowing until the soil has become warm. The general principles of culture are the same as those given for cucumbers and melons. The summer varieties should be planted four to six feet apart each way, and the winter sorts eight to ten. Three plants are sufficient to a hill.

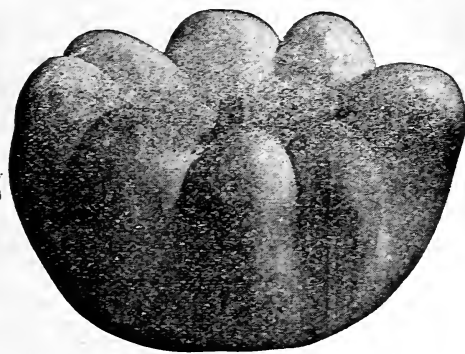
Crookneck, Bush, Scallop and Vegetable Marrow: Pkt., 5c; oz., 15c; 2 oz., 30c; ¼ lb., 50c; ½ lb., 85c; lb., \$1.50.

Summer



CROOKNECK, EARLY YELLOW—An early prolific kind having a solid curved neck; the skin is yellow, thin, hard and very warty, flesh tender and of good quality.

Summer Crookneck



BUSH SCALLOP, EARLY WHITE—This is the well-known, very early, somewhat flattened, scalloped bush squash. The color is creamy white with comparatively smooth surface. The vines are vigorous and very productive. This variety is also known as Patty Pan or Cymling.

ENGLISH VEGETABLE MARROW—A favorite English variety, bearing freely oblong, dull yellow fruit 10 to 15 inches in length by 4 to 5 inches in diameter; flesh before ripe, tender, marrowy and delicious.

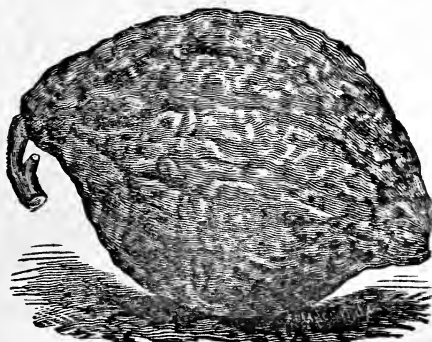
Crookneck, Bush, Scallop and Vegetable Marrow: Pkt., 5c; oz., 15c; 2 oz., 30c; ¼ lb., 50c; ½ lb., 85c; lb., \$1.50.

Winter

All varieties of winter squash: Oz., 20c; 2 oz., 35c; ¼ lb., 60c; ½ lb., \$1.00; lb., \$1.75.

CHILI MAMMOTH—Attains an enormous size, often reaching a weight of 200 pounds, and not infrequently weighs 300 pounds. Despite its size, its flesh is rich and fine flavored. It is especially desirable for stock feeding and exhibition purposes. For feeding cows it is best to cut them up, mixing with ground feed. As the yield an acre will run from 8 to 15 tons, it will thus produce a very cheap and nutritious feed. In feeding to swine, all that is necessary is to break the squashes open.

DELICIOUS—The increasing demand for this squash shows conclusively that its high quality is very generally known and appreciated. Many prefer it to Hubbard, so long regarded as the standard of excellence. Delicious as a fall and winter variety. Medium size. The fruit is moderately hard, usually dark green, but sometimes lighter in color and mottled, and are without any hard shell. The flesh is thick, very fine grained and bright yellow in color. It is considered by many to be the best for markets where quality is appreciated as well as very desirable for home garden.



SQUASH—Continued.

HUBBARD, CHICAGO WARTY—One of the best of the winter squashes. The vines are vigorous and very productive. The fruit is large, heavy and warted, with a very hard shell. The skin is uniformly dark bronze green. The flesh is bright orange-yellow, fine grained, thick, dry and richly flavored. This squash can be kept in good condition until spring. It is esteemed by many to be as good baked as the sweet potato crop failure.

HUBBARD SMOOTH—This is the old smooth green hubbard, and is home grown seed. We are advised by the grower that for years he has been specializing in growing hubbard squash for the fancy restaurants, and that the flavor of this special strain of home grown, smooth hubbard has been so highly satisfactory that he always has had more orders than he could fill.

HUBBARD GOLDEN—The vines of this variety are vigorous and very productive. The fruit is of medium size, weighing from six to eight pounds and in shape is like the Hubbard, although in condition for use decidedly earlier. They are wonderfully long keepers and can be held over in good condition for spring use. The shell is moderately warted, hard, strong and of a beautiful orange-red color, except for a bit of olive-green on the blossom end. The flesh is deep-orange, dry, fine grained and richly flavored. A very superior table variety.

PIKE'S PEAK—Large oval, tapering at the blossom end. Skin dark olive-green; light golden flesh of excellent quality. Vines vigorous and very productive.

All varieties of winter squash: Pkt., 5c; oz., 20c; 2 oz., 35c; ¼ lb., 60c; ½ lb., \$1.00; lb., \$1.75.

Tomatoes

CULTURE—Sow early in hotbeds and as soon as they have four leaves transplant into shallow boxes. Harden off and set out as soon as danger of frost is over.

To insure best results in respect to early ripening train up and trim the vines. When the plants have been properly started and are six to ten inches high they will begin to throw out branches. Select the largest and most vigorous of these and pinch off all others except this one and the main stem. Care must be exercised not to pinch off the fruiting branches which, as they appear, can be distinguished by the buds that are formed very early. In a short time these two remaining branches will become equally vigorous and as ordinary varieties will grow four to six feet high during the season, they should be securely tied at intervals of about ten inches to a long stake.

Fruit will set to almost any height desired if all side branches are kept trimmed off at intervals of a week. By such a method of training and trimming the fruits are kept clear from the ground and with free access of sunlight they ripen much earlier; the vitality, otherwise exhausted in superfluous branches and leaves, is utilized in forming fruits of largest size, greatest perfection of shape and best quality.

BONNIE BEST—A week later than Earliana, but with larger, smoother and sweeter fruits and also surpassing same in productiveness, as the vines bear continuously throughout the season. The fruits are very large, handsome, very solid and deep through. Of bright scarlet color, ripen right up to the stem without any cracks or green core. Flesh thick, with comparatively few seeds and of sweet flavor. A good shipper. Bright red, smooth, medium sized, solid and very prolific. Very popular wherever it has

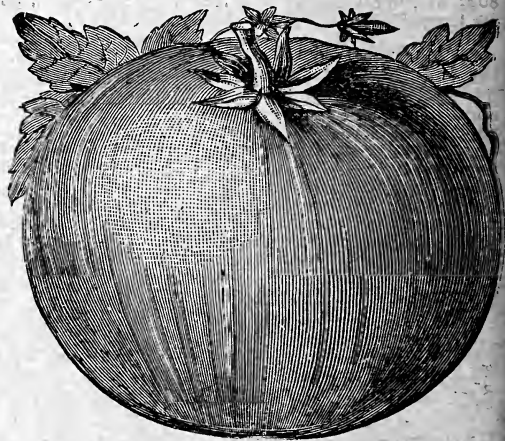
been tried as it has given almost universal satisfaction. Pkt., 5c; oz., 35c; 2 oz., 60c; ¼ lb., \$1.00; ½ lb., \$1.75; lb., \$3.00.

CHALK'S EARLY JEWEL—The large, handsome fruits are very solid and deep through, being almost round or ball shaped. Color is brightest scarlet, ripening right up to the stem without any cracks. The foliage is rather sparse and open, admitting the sunlight to the center of each plant, so that all the fruit is thoroughly ripened. Pkt., 5c; oz., 35c; 2 oz., 60c; ¼ lb., \$1.00; ½ lb., \$1.75; lb., \$3.00.

CORELESS—A new bright red tomato of the globe-shaped type, almost round. It is a strong grower and a heavy cropper, a grand slicing variety and ripens all over and through. Pkt., 5c; oz., 35c; 2 oz., 60c; ¼ lb., \$1.00; ½ lb., \$1.75; lb., \$3.00.

DWARF CHAMPION, OR TREE TOMATO—The plant is dwarf and compact; fruit medium size, rich, glossy red, smooth and solid; fine for private gardens. Pkt., 5c; oz., 40c; 2 oz., 70c; ¼ lb., \$1.25; ½ lb., \$2.00; lb., \$3.50.

EARLIANA, SPARKS'—The earliest large and smooth tomato. The most perfect of all tomatoes. Of large, uniform size and beautiful red color. Quality almost beyond praise. A most vigorous grower and heavy bearer, continuing until frost. Spark's Earliana is as near seedless as any tomato, giving but 12 to 15 pounds of seed to the acre, while other varieties yield from 75 to 100 pounds to the acre. Pkt., 5c; oz., 35c; 2 oz., 60c; ¼ lb., \$1.00; ½ lb., \$1.75; lb., \$3.00.



Earliana

JOHN BAER—An extra early scarlet fruited variety of superior merit. The vines are very hardy and exceptionally productive. The fruits are the largest of the extra early sorts and are most attractive in color. They are nearly round, smooth, firm and of excellent quality. It is one of the very earliest to ripen its first fruits and it continues to furnish marketable fruits much longer than other very early varieties. It is an invaluable sort for market gardeners, shippers and canners. Pkt., 5c; oz., 40c; 2 oz., 70c; ¼ lb., \$1.25; ½ lb., \$2.00; lb., \$3.50.

MOORE'S EARLY—This variety is of late introduction and is claimed by the originator to be earlier than Earliana; it is said to be the earliest tomato grown. Medium size with a sparse vine, and sets its fruit very early. Pkt., 5c; oz., 40c; 2 oz., 70c; ¼ lb., \$1.25; ½ lb., \$2.00; lb., \$3.50.

STONE—Fine for main crop; very large; color bright scarlet; very smooth, ripening up to the stem without a crack; exceedingly solid and

TOMATOES—Continued.

firm fleshed; an excellent shipper; quality the very best. **Oz., 30c; 2 oz., 50c; ¼ lb., 90c; ½ lb., \$1.50; 1 lb., \$2.50.**

Small Varieties

GROUND CHERRY OR HUSK—Plants of low, spreading growth and immensely productive. The small yellow fruits are each enclosed in a husk or covering. When ripe the fruits are an inch in diameter, bright yellow and of very sweet flavor; highly esteemed for preserving.

PEACH—This is a distinct and very attractive tomato for preserving, eating from the hand or table. Fruit resembles a peach in shape, size and color. Flesh tender and of good flavor.

Pkt., 5c; oz., 50c; 2 oz., 90c; ¼ lb., \$1.50; ½ lb., \$2.75; 1 lb., \$5.00.

Luther Burbank's Marvelous New Creation

THE BURBANK TOMATO

Excels All Other Early Varieties

Here we have the VERY BEST EARLY and VERY EARLIEST GOOD TOMATO yet known. Like most other good things, this comes as a matter of evolution. Mr. Burbank states that he has spent more than a dozen years in "evolving" this new "creation" through careful selective plant breeding, striving to see how many desirable, and how few undesirable qualities he could succeed in combining in one fruit.

The following is Mr. Burbank's personal introductory claims:

THE EARLIEST TOMATO IN THE WORLD— THE "BURBANK"

"By far the earliest, smoothest, solidest, most productive, and best of all early tomatoes; resists wilt and other tomato diseases better than most others. The "Burbank" is so much earlier than other tomatoes that from the seed of the tomatoes which ripened here in June, a second crop has been again and again grown and ripened the same season, something probably never before known. This extreme earliness means millions of dollars to American tomato growers, as one-half the tomatoes grown in the United States, even in California, are taken by frost instead of by the grower.

"Fruit, bright crimson; thick, solid, heavy, smooth, firm, medium to large in size, superior quality, unusually heavy and continuous bearer throughout the season; best keeper and shipper. The 'Burbank' has one other unique and most remarkable quality which will be appreciated by those who like fresh sliced tomatoes for the table. Unlike other tomatoes, the skin peels freely from the rich, firm flesh." **Pkgs. of 100 seed, 15c; 2 pkgs., 25c.**

Turnips

The value of Turnips and Ruta Bagas for feeding stock in fall and winter is not fully appreciated, as they are much liked by all kinds of stock and serve to keep them in good condition. We recommend that farmers increase their sowings largely, for we are sure the crop will prove remunerative for stock feeding as well as for table use.

Both of these wholesome vegetables are very easily affected in their form and flavor by soil, climate, and mode of culture. The turnip plant is distinguished from the ruta бага by its rougher leaves; the root usually matures earlier and is smoother and more symmetrical.

CULTURE—For early use sow as soon as the ground can be worked, in drills 15 to 18 inches apart, and half an inch deep. For winter use, sow during July, as early sowings are unfit for winter use.

All varieties of turnips unless otherwise quoted: **Pkt., 5c; oz., 10c; 2 oz., 20c; ¼ lb., 30c; ½ lb., 45c; 1 lb., 80c.** At purchaser's expense, **1 lb., 75c; 5 lbs., \$3.25; 10 lbs., \$6.00.**

ABERDEEN, YELLOW—Round, medium size, light yellow; strained with purple on top; produces a large crop; flesh very firm, tender and sweet.

AMBER GLOBE—One of the best yellow fleshed varieties, grown usually for stock feeding. The roots are of large size and of globular shape. The skin is clear yellow except the top which is tinged with green. The flesh is light yellow, fine grained and sweet. This variety keeps well and is a good cropper.

COWHORN—Sometimes called Long White. Is slightly crooked, pure white, except a little shade of green at the top. Grows half out of the ground and is of very rapid growth; is delicate and well flavored. An immense yielder.

EARLY FLAT WHITE DUTCH, STRAPPED LEAVED—A leading white-fleshed variety, and one of the best, either for family, market garden or field crop; of medium size and produces a large crop. The flesh is firm, but tender, and of a superior rich, buttery flavor.

MILAN, WHITE—The earliest of all. The earliest turnip and the best quality in its class. A fine, snowy-white color. The skin is so smooth and neat as to seem polished. The foliage is short. Size medium, and the flesh is white, tender and smooth grained. **Pkt., 5c; oz., 15c; 2 oz., 30c; ¼ lb., 50c; ½ lb., 85c; 1 lb., \$1.50.**

ORANGE JELLY OR GOLDEN BALL—A distinct variety, one of the most delicately flavored of the yellow fleshed turnips. The tops are small. The roots are medium sized, round, very smooth and with deeper yellow skin than most of this class. The flesh is firm, crisp and of most excellent quality. The roots are in best condition for table use when about three inches in diameter. This variety is of quick growth, adapted to spring as well as fall planting, and keeps exceptionally well. Known also as Robertson's Golden Ball.

POMERANIAN WHITE GLOBE, STRAPPED LEAVED—This is a free growing, rough leaved sort; perfect globe shape; skin white and smooth; leaves dark green.



TURNIPS—Continued.

PURPLE TOP, STRAPPED LEAVED, EARLY—One of the best and most universally grown; small, erect top, round, flat; purplish red above; white underneath; flesh firm, but very tender and sweet.

PURPLE TOP WHITE GLOBE—A perfect globe shape, with smooth, white skin; flesh pure white, firm and crisp. Purple above ground.

SNOWBALL—A perfectly globe-shaped, white skinned turnip. The flesh is fine grained, firm and of very delicate flavor. Very early.

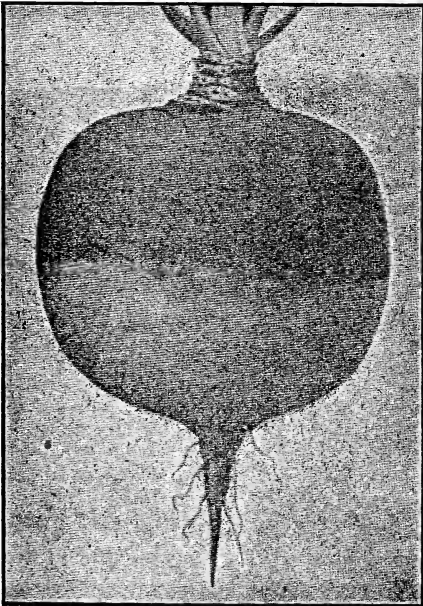
WHITE EGG—A quick growing egg-shaped, perfectly smooth, pure white variety, with small top and rough leaves. It grows half out of the ground; the flesh is very sweet, firm and mild.

All varieties of turnips unless otherwise quoted: Pkt., 5c; oz., 10c; 2 oz., 20c; ¼ lb., 30c; ½ lb., 45c; 1 lb., 80c. At purchaser's expense, 1 lb., 75c; 5 lbs., \$3.25; 10 lbs., \$6.00.

Rutabagas or Swedes

For feeding stock in fall and winter there is nothing superior to rutabagas, as they are much liked by all kinds of stock and serve to keep them in good condition. We desire to call special attention to an improved Bangholm. If you have not used this, give it a trial and we believe you will be more than pleased.

(See note on turnips).



Danish Purple Top.

BANGHOLM PAJBBERG (Improved Danish Purple Top)—This variety was awarded a first-class certificate by the Danish government for heaviest yield, having given 49 tons per acre.

This purple top sort is excellent both in shape and quality. The roots are of large size, slightly tankard shaped, with small neck and few or no side roots. The skin is yellow with purple top. The flesh is yellow, sweet and solid.

SWEET RUSSIAN OR WHITE—Hardy, easily grown, large, and yields as much as the best yellow kinds; flesh free-grained and solid, but tender and well flavored; good for stock and desirable for the table.

YELLOW SWEDE OR RUTABAGA—Shape oblong, dull reddish color above ground, but yellow underneath; is harder than the common turnip and will keep till spring.

The three foregoing rutabagas: Pkt., 5c; oz., 10c; 2 oz., 20c; ¼ lb., 30c; ½ lb., 45c; 1 lb., 80c. At purchaser's expense, 1 lb., 75c; 5 lbs., \$3.25; 10 lbs., \$6.00.

DISEASE AND INSECT PREVENTION

The ordinary blights are usually overcome by spraying with Bordeaux mixture. There are some diseases, however, which can not be overcome, and when trouble appears that does not yield to treatment the affected plants should be taken up and burned to prevent the spread of the infection to others.

Mildew

For the control of mildew, pulverized sulphur or grape dust, is dusted full strength on the diseased plants. A tin can with small holes punched in the bottom makes a good sifter for this purpose, or a cheap flour sifter may be used. The holes in a flour sifter are the proper size for this purpose.

The Sucking Insects

For the destruction of insects which suck the sap of plants, such as the true bugs and the plant lice, or aphids, it is necessary to use a mixture which kills by contact or substances which smother. Aphids, or plant lice, usually collect on the underside of leaves, causing them to crumple.

To destroy these sucking insects use nicotine sulphate solution.

The Eating Insects

The eating insects, or those which eat fruit or foliage, may usually be killed by using a spray of poisonous solution or by dusting poison powders on the plants attacked. Arsenate of lead is a favorite poison for this purpose, and may be used in spray or powder, but it must be handled with care as it is poisonous to human beings. It should never be applied to vegetables that are soon to be used, nor on cabbage or cauliflower after the heads have begun to form.

Paris green has long been used for protection, but arsenate of lead is now used much more extensively and is considered better.

Poisoned Bait

Poisoned bait is useful against cutworms and slugs. Small portions of the bait should be placed around plants subject to attack by them. The pests feed at night and hide under chips or other objects during the day. Bait should be placed beneath these. Poisoned bait may be made as follows:

Wheat bran	1 pound
White arsenic, powdered	½-ounce
Cheap sirup	1 or 2 ounces

Water to make a thick mash of the mixture. The bran and the white arsenic should be mixed. Dilute the sirup with a little water and pour this over the bran and white arsenic. Stir well. Add enough water to make a thick mash.

Liquid Poisoned Bait

Sodium Arsenate	1 ounce
Water	4 quarts
Molasses	1 pint

Dissolve the sodium arsenate in boiling water and add the molasses. Flavor by adding chopped pieces of vegetables of the kind which is to be sprayed. Apply with a whisk broom.

VEGETABLE DISEASES, INSECTS, REMEDIES

NOTE: It is important that immediate attention be given insects and diseases as soon as they appear. Delay in spraying or removal may prove fatal.

ASPARAGUS

Rust—(Rusty appearance of leaves and stems)
—Procure rust resistant variety, such as Palmetto.

Beetles—(Eat young stems and leaves).
Remedy: On young plants spray with arsenate of lead when pests appear, repeating 10 days later and again 10 days

later if necessary. And an ounce of laundry soap per gallon of spray to make it stick to the foliage. Do not use arsenate of lead on new stems used for food during cutting season. On old plants, spray after cutting season. Nicotine sulphate sprayed on the young insects will kill all it hits.

BEETS

Leaf Spot—(Reddish and purple spots, turning ashy gray)—Usually not affecting garden beets.

Remedy: Spray with Bordeaux mixture when plants are 3 to 4 inches high, repeating 2 and 4 weeks later.

Web Worm—(Eats the leaves).

Remedy: Spray with arsenate of lead when worms appear; repeat when necessary.

Spinach Aphids—(Sucks sap from leaves).

Remedy: Spray with nicotine sulphate when pests appear and repeat when necessary. In order to strike the aphids the spray must be directed against the undersides of the leaves.

Beet-root Aphids—(Sucks sap from roots).

Remedy: Pour a small amount of nicotine sulphate spray around roots and repeat if necessary.

BUSH BEANS

Anthraxnose—(Dark, sunken spots, scab-like, on pods; spots on leaves).—Pick and burn diseased pods. In saving seed discard those from diseased plants, as seed carry the infection.

Leaf Beetles—(Very small, dark or pale stripes; eat leaves).

Remedy: Spray with arsenate of lead when pests appear, repeat in 10 days and later if necessary. Bordeaux mixture repels but does not kill.

Aphids or Plant Lice—(Suck sap from plant and make leaves crumple).

Remedy: Spray with nicotine sulphate when pests appear, repeating when and as often as necessary. Crumpled leaves protect lice from spray, and should be picked and burned. Apply spray to underside of leaves, to strike aphids.

Bacterial Blight—(Water soaked spots on leaves and pods).—No satisfactory remedy. Pull up and burn plants.

Downy Mildew—(Thick white growth).—Burn all diseased pods. Spray with Bordeaux mixture, repeating every ten days if necessary.

Beets—Swiss Chard

Leaf Spot—(Symptoms same as with beets).

Remedy: When disease appears, spray

as directed for beets. (Usually no spraying will be found necessary). Wash sprayed leaves well before using.

CABBAGE AND CAULIFLOWER

Club Root—(Root swells and decays).—Pull up and burn plants.

Preventive: In spring apply 1 lb. lime to each 8 sq. feet of ground before setting out plants.

Black Rot—(Leaves turn yellow, then brown and black and decay. Pull up and burn plants).

Preventive: Soak seed 15 minutes in solution made of $\frac{1}{4}$ -oz. formalin and 3 pints of water; rinse in clean water; plant at once.

Yellows—(Leaves turn yellow, then brown, and drop).—Pull up and burn plants.

Preventive: Treat seed as for black rot.

Cabbage Worms—(Eat leaves).

Remedy: When worms appear spray with arsenate of lead, repeating if necessary before heads form. Add an ounce of laundry soap per gallon of spray to make it stick to the leaves. Do not use arsenate of lead later than 3 weeks before using or marketing cabbage.

Aphids or Lice—(Suck sap from leaves).

Remedy: Spray with nicotine sulphate solution when pests appear; repeat if necessary.

Cabbage Looper—(Eats leaves).

Remedy: Treat as for cabbage worms.

Cabbage Maggots—(Tunnel inside of roots).

Preventive: When plants are set out take a piece of tarred building paper 2 or 3 inches in diameter, cut a slit from one side to center, and 4 or 5 slits at center. Fit this around stem by slipping plant through the long slit, and press paper firmly against ground, to prevent young maggots from reaching root.

Black Leg—(Diseased, sunken areas on stem, leaf, stem and leaves, plant becoming purplish).—There is no remedy. Pull up and burn plants.

Preventive: Disinfect seed for 10 minutes with 1 tablet of corrosive sublimate mixed in 1 pint of water.

Cutworms—(Dark colored, eat young plants off at surface of earth).

Remedy: Spread poisoned bran mash over ground before setting out plants; spread around plants when set. Afterward spread poisoned bait around plants as necessary to control worms. It is wise to wrap paper around stem from leaves to root just before setting out. Cutworms are especially abundant where sod has grown.

CELERY AND CELERIAC

Blight or Leaf Spot—(Gray or brown spots, drooping stems).

Remedy: Spray young seedlings, in seed box or seed bed, with Bordeaux mixture. Spray again as soon as set in garden, repeating 10 to 14 days later. Repeat again if necessary. Spraying in seed bed must not be neglected if disease appears

Damping Off—(Small seedlings dying in seed bed).

Preventive: Care should be taken to water and partially shade the young seedlings in hot and dry weather. As soon as seed are planted cover bed with thin layer of sand.

CORN

- Smut**—(Large, black, irregular swellings on ears or tops). The only remedy is to cut off and burn the smut swellings.
- Cornear Worms**—(Bore through husk and eat the young kernels). Kill all worms which are found when husking corn for use.
- Cutworms**—(A dark worm which cuts plant off at surface of earth when plant is small).

- Remedy:** Use poisoned bait in the same manner prescribed for cabbage. Repeat if necessary. Being a night worker the cutworm is usually found in the morning in the ground by cut off plants. Dig out and kill.
- Seed Corn Maggot**—(Tunnels in seed, sprouts and stems of plants).—Apply liquid poisoned bait with whisk broom.

CUCUMBERS

- Anthrachnose**—(Brown spots on leaves).
Remedy: Spray with Bordeaux mixture when plants begin to form vines. Repeat two or three times if necessary, at intervals of 2 weeks.
- Downy Mildew**—(Yellow spots on leaves).
Remedy: Treat as for anthracnose.
- Wilt**—(Leaves droop and wilt quickly).—Pull up and burn plants. Striped beetles act as carriers of this disease and should be controlled carefully.
- Sting Bug or Squash Bug**—(Sucks sap from leaves and injects an injurious substance).
Remedy: Pick them or shake them into pan of water and kerosene. Destroy egg masses. Place small pieces of boards near hills. The bugs will collect underneath these and may be easily crushed.

- Striped Beetle or 12-Spotted Beetle**—(Both eat leaves).
Preventive: Cover young plants with protectors of cheesecloth or wire gauze.
Control: Mix arsenate of lead in the Bordeaux mixture which is used for diseases. Another remedy is to cover leaves with tobacco dust. Treatment should be given as soon as beetles appear, or when covers are removed. Repeat 5 days later and again 5 days later, with further repetitions when necessary.
- Vine Borer**—(Worm which bores into vine at surface of earth).
Remedy: Carefully cut the vine lengthwise, remove borer and kill. As plants grow throw earth over vine at every other joint, in order that new roots may form and to keep the vine growing.

EGGPLANT

- Blight or Wilt**—(Whole plant wilts).—No remedy. Pull up and burn plants.
- Flea Beetle**—(Small jumping beetle which eats leaves).
Remedy: Spray with Bordeaux mixture and arsenate of lead combination.

- Anthrachnose**—(Dark sunken spots in fruit; cracks in leaves).
Remedy: Spray with Bordeaux mixture when plants are set, repeating 10 days later and again 10 days later.

ONIONS

- Thrips**—(Very small sucking insects, which cause leaves to turn a silver color or whitish, and later to curl and twist).
Remedy: Spray with nicotine sulphate solution when pests appear, repeating once or twice as necessary.

- Cutworms**—(Dark worms which attack onions as they do corn).
Remedy: Same as with corn.
- Onion Maggot**—(Eats bulb, inducing decay).—
Remedy: Apply liquid poisoned bait with a whisk broom.

PEAS

- Powdery Mildew**—(Covers plant with powdery white growth).
Remedy: Use pulverized sulphur or flow-ers of sulphur, or Bordeaux mixture, by sprinkling on plants when mildew appears,

- just before bloom appears. Repeat if necessary two weeks later and again 2 weeks later.
- Pea Aphs.**
Remedy: Same as for bean aphs.

POTATOES

- Early Blight**—(Brown spots, with concentric rings on leaves. Worst in moist weather).
Remedy: Spray with Bordeaux mixture when plants are 6 inches high. Repeat 2 weeks later and again 2 weeks later.
- Late Blight**—(Dark brown spots on leaves, appearing water soaked and not having concentric rings. The spots become yellow and the leaves die. Worst in hot, sultry weather, August and September. Lives over winter in seed potatoes).
Remedy: Same as for early blight.
- Colorado Potato Beetle**—(The common potato bug, which eats leaves).

- Remedy:** Spray with arsenate of lead when beetles appear. Repeat when and as often as is necessary. Hand picking is effective, as is also knocking the bugs into a pan of water containing some kerosene.
- Blister Beetle**—(Long black potato bug or old fashioned potato bug. Eats leaves).
Remedy: Same as for Colorado potato beetle.
- Flea Beetle**—(Small, jumping insect which eats leaves, usually appearing when plant is small).
Remedy: Spray as for Colorado potato beetle.

PUMPKIN

- This plant is subject to the same diseases and insects as cucumber, and should be treated the same way.

RUTABAGA

- This plant is subject to the same pests as cabbage and should be treated the same way.

RADISH

- Cabbage Maggot**—(Small worm which tunnels into the radish).
Preventive: Sprinkle tobacco dust along

- row when seed is planted, or spread sand on which kerosene has been sprinkled along the row when plants are small. Burn all plants that may be infected.

TURNIP

subject to the same diseases and insects as cabbage, and should be treated the same way.

RHUBARB

Flea Beetle—(Eats small holes in the leaves).

Remedy: Same as for flea beetle of potato, applied when beetles first appear and repeated when necessary.

TOMATOES

Leaf Spot, or Blight—(Leaves become spotted, turn yellow and drop; stems dry up and fruits drop).

Remedy: Spraying is not entirely effective but is helpful. Spray with Bordeaux mixture while plants are small in seed box or seed bed. Repeat soon after transplanting to garden and repeat again 3 weeks later and every 3 weeks while disease exists.

Fruit Rot—(Decay begins at blossom end of fruit).

Preventive: In the absence of an effective remedy the only safeguard is to cultivate well and be careful to water as the plants need.

WATERMELON

Anthrachnose—(Brown spots on leaves; small sunken spots on fruit).

Remedy: Spray with Bordeaux mixture when melons are half grown. Repeat 10

Aphids—(Suck sap from leaves).

Remedy: Spray under side of leaves with nicotine sulphate, when aphids appear. Repeat a second and third time if necessary.

SQUASH

This plant is subject to the same diseases and insects as cucumbers and should be treated the same way.

Anthrachnose—(Sunken, discolored spots in fruit, followed by decay).

Remedy: Same as for leaf spot.

Wilt—(Causes plant to wilt and die).—Pull up and burn plants.

Tomato Worms—(Large green naked caterpillar, which eats leaves).

Remedy: Pick by hand and destroy, or spray with lead arsenate solution. (These worms do not often appear in large numbers.)

Cutworms—(Dark worms which cut plants off at the surface of earth).

Remedy: Same as with cabbage.

Flea Beetle—(Small jumping beetle which eats small holes in leaves).

Remedy: Same as with potato.

days later and again if necessary.

Insects—This plant is subject to the same insects as cucumber and should be treated the same way.

Herbs

ANISE—Used for cordials, garnishing and flavoring. Pkt., 5c; oz., 20c.

CARAWAY—Grown for seeds; used for flavoring. Pkt., 5c; oz., 20c.

CATNIP OR CATMINT—Leaves and young shoots for seasoning. Pkt., 15c; oz., 75c.

CORIANDER—Seeds used in the manufacture of liquors, in confectionery and culinary preparations. Pkt., 5c; oz., 20c.

DILL—Seeds have an aromatic odor and pungent taste. Pkt., 5c; oz., 15c; ¼ lb., 40c; ½ lb., 60c; 1 lb., \$1.00.

HOREHOUND—For seasoning and cough remedy. Pkt., 10c; oz., 40c.

LAVENDER—An aromatic, medicinal herb. Pkt., 10c; oz., 50c.

MARJORAM—Sweet; leaves and shoots used for seasoning. Pkt., 10c; oz., 40c.

SAGE—One of the most extensively used herbs for seasoning; hardy perennial about fifteen to eighteen inches high. Plant very branching; flowers usually blue, sometimes pink or white; leaves grayish green, oval, wrinkled. Pkt., 10c; oz., 50c; ¼ lb., \$1.50.

SUMMER SAVORY—Used for flavoring soups. Pkt., 10c; oz., 40c.

THYME—Leaves and young shoots used for seasoning; a tea is made from leaves, a remedy for headache. Pkt., 10c; oz., 50c.

Flower Seeds

ACROCLINIUM—(Everlasting): A very pretty, half hardy annual producing white and rose colored, double daisy-like flowers, about one-half inches in diameter. Each flower-head is borne singly on a very long stem; leaves small, narrow, alternate. Grows about 15 inches high. Mixed: Pkt., 5c.

AGERATUM—Floss Flower (A)—One of the most useful and profuse-blooming plants known. A beautiful, hardy annual of neat bushy habit. The attractive feathery flowers borne in dense clusters are very useful for bouquets. Very desirable for outdoor bedding and borders, being covered with bloom nearly all summer. Mixed. Pkt., 5c.

MEXICANUM COERULEUM—Blue. Pkt., 10c

MEXICANUM GRANDIFLORUM—White. Pkt., 10c.



Sweet Alyssum

FLOWER SEEDS—Continued

ALYSSUM SWEET LITTLE GEM (A)—The plants are very dwarf and spreading; they grow only three to four inches high, and each plant completely covers a circular space 12 to 20 inches in diameter. They soon become one mass of white, remaining in full bloom from spring to fall. Pkt., 5c; oz., 50c.

AMARANTHUS (A)—Brilliant-foliated annuals, growing from three to five feet high, bearing curious racemes of flowers. Useful in borders of tall plants or for the center of large beds. They thrive best in a hot, sunny location, not too rich soil, and given sufficient room to develop their full beauty.

Mixed: Pkt., 5c.

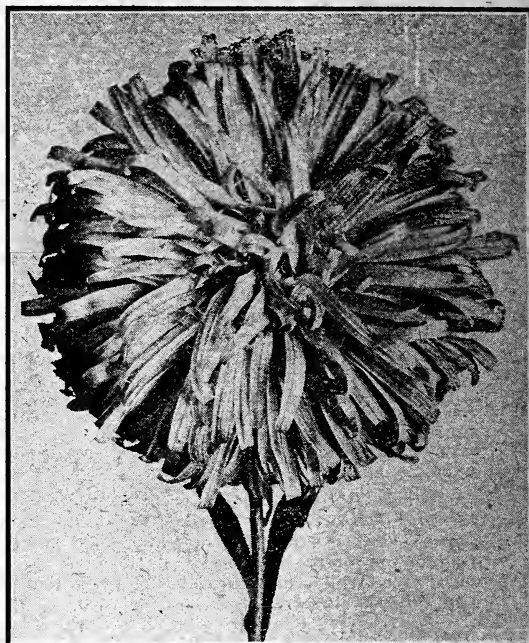
CAUDATUS (Love Lies Bleeding)—Blood red; drooping. Pkt., 5c.

ANEMONE (Coronaria) (P) (Wind Flower)—Among the earliest of spring flowers. They are about two inches across, with blue stamens, resemble the single poppy in shape and come in several shades of color. The foliage is deeply cut. A most valuable class of hardy plants suitable for edging, massing or single specimens. They grow rapidly two to three feet and are profuse in bloom, gaining strength and beauty each year. Single, Mixed Pkt., 10c.

ASTERS

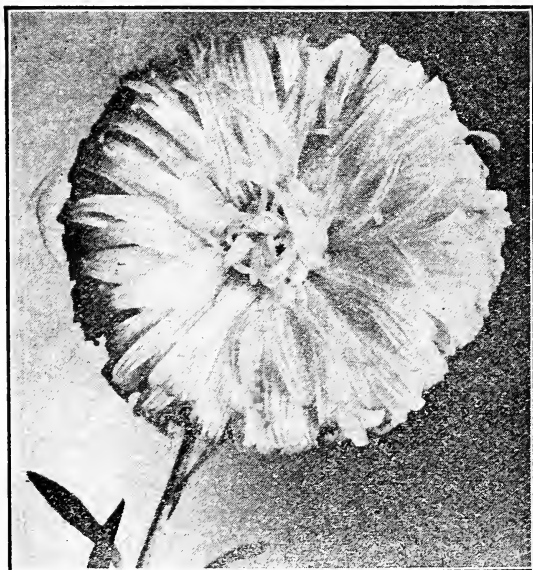
There is no more beautiful flower than the Aster, and there is none with a greater diversity of colors and sizes. These have been very much improved, so that today the largest and most beautiful resembles a fine Chrysanthemum more than it does an old-fashioned Aster.

Our stock has been selected with the greatest care, so that we are able to offer varieties that will undoubtedly please and delight anyone giving them reasonable care.



Crego Giant

"CREGO GIANT" (A)—The "Giant" Crego is distinct in every way, and its magnificent flowers, often growing to 6 inches in diameter, are fully equal to Chrysanthemums. They have rare beauty of form and brilliant coloring, are very vigorous, and free flowering; blooms are borne on long stems. White, Rose, Pink, Purple, Crimson, Lavender and mixed. Pkt., 10c; ½ oz., \$1.00; oz., \$1.75.



Giant Comet.

COMET, GIANT BRANCHING (A)—Are thrifty growers, 15 inches high, bearing immense long stemmed flowers, composed of long, wavy petals, like Japanese Chrysanthemums. crimson, White, Shell, Pink, Lavender, Royal Purple and Mixed. Pkt., 10c; ½ oz., \$1.00; oz., \$1.75.



Improved Ostrich Feather

IMPROVED OSTRICH FEATHER (A)—The finest type of the Giant Comet, or Ostrich Feather type of Asters. Much larger than the Giant Comet, the petals longer and more curled and twisted, and produced in greater abund-

FLOWER SEEDS—Continued

ance. Borne on long stems, which makes them cut flowers par excellence. White, Dark Blue, Rose Pink, Red, Royal Purple and mixed. Pkt., 10c; ½ oz., \$1.00; oz., \$1.75.

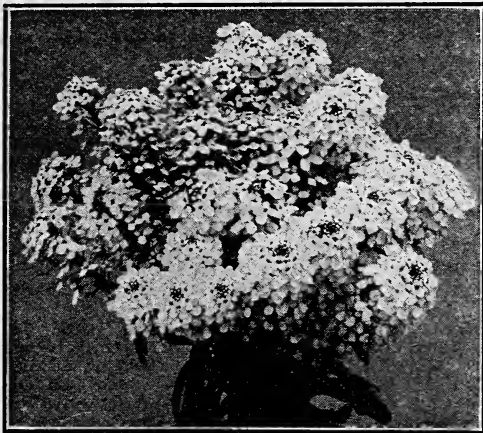
ASTERMUM—(What is It?)—A strain of Comet Asters which on account of their immense size and chrysanthemum-like appearance have appropriately been named Astermums. They were first exhibited at the convention of American Florists in 1912 and attracted great attention. The plants grow about two feet high with long, strong stems. Most of the flowers are five inches across. Mixed Pkt., 15c; ½ oz., \$1.25; oz., \$2.00.

BACHELOR'S BUTTON, OR CENTAUREA CYANUS (A)—A hardy annual, easily cultivated. Has recently been greatly improved, and now produces handsome flowers of a great variety of rich colors. Borne on tall, branching stems, with but little foliage. Striking and handsome. Mixed Pkt., 5c; oz., 25c.

BALSAM OR LADY'S SLIPPER (A)—An old and favorite garden flower, producing its gorgeous masses of beautiful brilliant-colored double flowers in the greatest profusion; of easy culture; succeeds in a good rich soil; tender annuals; 2 feet. Start the seed indoors in April or sow out of doors in May. To grow fine specimens they should not be closer than 18 inches apart. Double Camellia-Flowered—Mixed. The largest double variety. Pkt., 10c; Single Mixed Pkt., 10c.

BEGONIAS (P)—Begonias are among the most beautiful of flowering plants, especially adapted to pot culture. Dwarf. Mixed, Pkt., 25c.

CALENDULA (POT MARIGOLD) (A)—Very hardy annual, one foot high, blooming freely practically the whole year round. Is of the easiest culture and is desirable for rather inferior soils, where less sturdy flowers do not thrive. A medicinal extract resembling arnica is made from the flowers. Double Mixed Pkt., 5c; oz., 25c.



Candytuft.

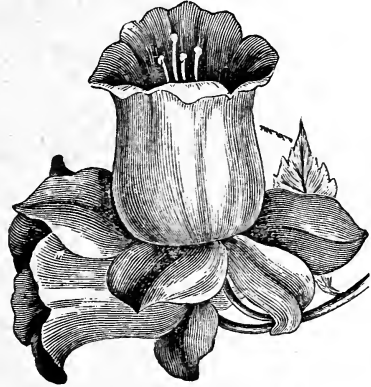
CALLIOPSIS (A)—A quick growing annual. The flowers are placed on graceful wavy stems and in color run through all the shades of red and yellow; foliage dainty; useful combined with other flowers. Tall double mixed. Mixed, Pkt., 5c.

CANDYTUFT (A) (Iberis)—Showy, branching plants twelve to fifteen inches high and bear-

ing in profusion terminal clusters of beautiful single cruciform flowers in a wide range of colors. Considered indispensable for cutting and very effective in beds, masses or rockeries.

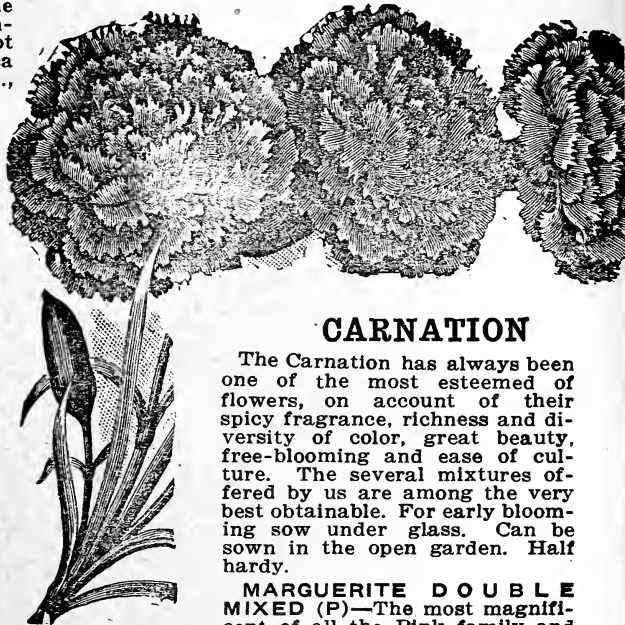
Empress (A), White. Pkt., 10c; oz., 50c; Mixed (A), Pkt., 5c; oz., 40c.

CANNA FRENCH—Crozy's dwarf, mixed—(P)—Ornamental tropical-looking plants of easy culture; large and beautiful flowers. Hardy perennial. Pkt., 10c.



Canterbury Bells

CANTERBURY BELLS (*Campanula Calycanthema*) (Cup and Saucer) (B)—Produces beautiful single flowers three inches in length with saucers three to four inches in diameter. The plants form pyramids of bloom bearing from 100 to 200 of these exquisite blossoms for weeks during the early summer. A hardy biennial 2½ feet high, flowering the second season from seed. White, Blue, Pink. Pkt., 15c; mixed, all colors, Pkt., 10c.



CARNATION

The Carnation has always been one of the most esteemed of flowers, on account of their spicy fragrance, richness and diversity of color, great beauty, free-blooming and ease of culture. The several mixtures offered by us are among the very best obtainable. For early blooming sow under glass. Can be sown in the open garden. Half hardy.

MARGUERITE DOUBLE MIXED (P)—The most magnificent of all the Pink family and general favorite for their delicious fragrance and richness of color. Pkt., 10c;

GIANT MALMAISON (P)—An exceedingly fine mixture. Pkt., 15c.

EARLIEST FRENCH MIXED (P)—Produces double, sweet-scented flowers, in a great variety of colors and in great profusion. Pkt., 15c.

FLOWER SEEDS—Continued

CENTAUREAS

Centureas embrace some foliage plants but are more generally known for their hardy flowering annuals which include some of our most graceful and showy garden flowers that have long been favorites for cutting. The tall slender straight or slightly branching plants with narrow leaves thrive well in common garden soil. They produce bright colored single and double heads of flowers on long graceful stems and some sorts are fragrant.

IMPERIALIS ROYAL SWEET SULTAN (A)—This beautiful class is undoubtedly the finest of all Sweet Sultans for cut flower purposes. The beautiful sweet-scented, artistic-shaped flowers are borne on long, strong stems, and when cut will stand for several days in good condition. It is best, in this latitude, to sow very early in the spring, so that they may perfect their flowers before very hot weather arrives. Mixed Pkt., 10c; Blue, Pkt., 10c.

CANDIDISSIMA OR WHITE LEAVED DUSTY MILLER (A)—Silvery white; leaves broadly cut. Fine for bedding, vases, hanging baskets and pots; also extensively used for margins. As an edging to a bed of dark-leaved Cannas or Scarlet Sage these are particularly effective. Sow the seed early indoors, and transplant in May. Pkt., 10c.

CELOSIA CHILDSII—Chinese Wool Flower. A distinct form of the plumed Celosia, with beautiful, ball-shaped flower-heads of a purplish crimson color, somewhat resembling a ball of wool. It flowers profusely during summer and fall. Two to three feet tall. One of the finest fall-blooming annuals. Pkt., 15c.

CELOSIA (COXCOMB) (A)—Free blooming annuals, growing best in light soil not too rich. They make splendid border plants and are attractive for pots. Finest dwarf, mixed, pkt., 10c.

CHRYSANTHEMUMS

These outdoor "summer Chrysanthemums" are showy and effective for bedding or borders in the garden and desirable for cut flowers. Plants become more bushy and shapely if pinched back in early growth and the practice of disbudding will result in much larger flowers. These annuals are not the winter flowering sorts sold by florists and which are propagated only by division of roots. Double Mixed, Pkt., 10c; Single Mixed, Pkt., 5c.

CLARKIA (A)—Handsome, free flowering annuals of easy cultivation. Produce a fine effect massed in beds. Flowers are very bright and attractive. Double mixed, Pkt., 5c.

COLEUS (P)—Magnificent ornamental foliage plants for house or garden culture. The leaves are of many shapes, and the shades and colors are of remarkable beauty. Finest Hybrids Mixed, extra choice, pkt., 25c.

COLUMBINE OR AQUILEGA (P)—A delightful hardy perennial, growing about two feet high, and splendid for permanent beds and borders. Thrives in partial shade and under the spray of a fountain or other moist location. Bears exquisite blossoms of clear blue, white, rose, purple and striped. Single mixed, pkt., 10c; Double Mixed, pkt., 10c.

COREOPSIS (LANCELATA) (P)—Blossoms the first year; flower rich yellow, single; very fine for cutting. Pkt., 10c.

COSMOS—Very effective for autumn flowering in broad masses or backgrounds. A hardy and rapid grower, forming bush-like plants with



Cosmos

feathery green foliage, four feet high, covered with large flowers somewhat resembling the single dahlia. They are gracefully poised on long stems and very useful for decorative purposes. Extra early, mixed, pkt., 10c.

DAHLIA (P)—But few people know Dahlies can be raised from seed and will bloom the first year. The seeds germinate as easily and certainly as Zinnias, and from the very first development are strong and sturdy little plants. Plant them in a shallow box or pan early in March or April, transplant them carefully as their growth demands. When all danger from frost is over plant them in the bed or border in the garden, and from then on they will prove no more trouble than if the tubers had been used instead of seed. Double Mixed, pkt., 10c; Single Mixed, pkt., 10c. Double Cactus Mixed, pkt., 15c.

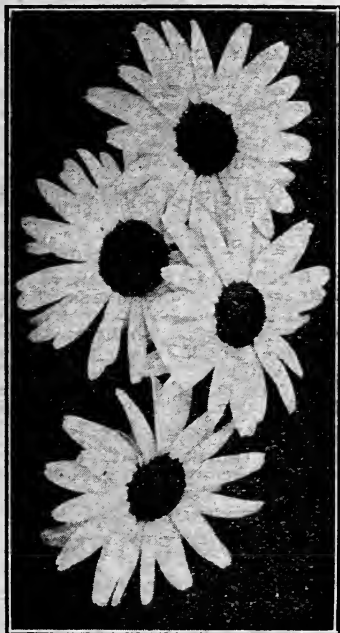
DAISIES

AFRICAN DAISY (Dimorphotheca Aurantiaca) (A)—A rare and extremely showy annual from South Africa which has become a great favorite on account of its very easy culture and beautifully colored flowers. Its Marguerite-like blossoms, produced in great profusion, are $2\frac{1}{2}$ to $3\frac{1}{4}$ inches in diameter. These are a unique glossy rich orange gold, which brilliant coloring is rendered more conspicuous by the dark disk surrounding the black zone. Pkt., 10c.

BELLIS, DOUBLE (P)—Beautiful double flowers that appear in early spring if plants are slightly protected over winter. Blossoms also early from spring-sown seed, as plants bloom when but two or three inches high. Mixed, pkt., 15c;

**Rydes Calf Meal is with-
out an equal for your calves.**

FLOWER SEEDS—Continued



Shasta Dalsy

SHASTA (P)—A most remarkable new flower, originated by Luther Burbank, of California; bears flowers of the snowlike white, with yellow centers; blooms the first season and should be sown in boxes early and transplanted. Pkt., 15c.

DIAMOND FLOWER (Inoposidium) (A)—A charming little thing for every window garden, growing only 2 or 3 inches high. The seed may be sown in the pots of other plants, resulting in a mass of minute green leaves and starry flowers which shine like diamonds. Colors are White and Violet Blue mixed. Pkt., 10c.

DIANTHUS OR PINKS (B)—A magnificent genus, embracing some of the most popular flowers in cultivation, producing a great variety of brilliant colors and profusion of bloom. They grow about a foot high and can be used in beds or borders of solid or mixed colors. The double flowering sorts are almost as fine as Carnations for cutting. Should have a sunny location. Single, Pkt., 5c. Double Mixed, Pkt., 10c.

DIGITALIS (Foxglove) (P)—Handsome, ornamental, hardy plants of stately growth. The seed, though small, germinates readily and the plants succeed well even in poor soil if given a half shady location. The spikes are often 3 to 5 feet long and thickly strung with scores of thimble-shaped flowers. Mixed colors, pkt., 5c.

EVERLASTING (Helichrysum) (A)—Sometimes called the Straw Flower. Large, full, double daisy-like flower heads with prominent centers and stiff overlapping scales, produced in various shades of bright yellow and scarlet on stems of good length. Desirable as dried specimens and for use in making winter bouquets. For this purpose the flowers should be gathered when on the point of expanding. Sow early in spring; thin to one foot apart each way. Hardy; two to two and one-half feet high. Monstrosum, fl. pl., finest mixed. Largest double flowers, pkt., 5c.

FORGET-ME-NOT (MYOSOTIS) (P)—A modest little flower. A pretty trailer with blue flowers. Pkt., 10c.

FOUR O'CLOCK (MIRABILIS) (A)—Is also called Marvel of Peru. A handsome, free-flowering, sweet-scented plant. They open their blossoms about four o'clock in the afternoon, hence their name. Hardy annuals. Choice mixed, pkt., 5c.

GAILLARDIA (BLANKET-FLOWER) (A)—Splendid showy annuals, remarkable for the profusion, size and brilliancy of their flowers, continuing in bloom from early summer till November; excellent for beds, borders, or for cutting; should be sown where they are to bloom; 1½ feet. Fine Mixed Double, pkt., 5c. Perennial, Single, Mixed, pkt., 10c.

GERANIUM (P)—Comparatively few are aware that Geraniums may be grown easily from seed and flower the first season if sown early. This is the best way to secure Geraniums, as they will frequently reward the cultivator with charming new varieties. In fact, propagation by seed is the only way to obtain new varieties. Zonale Mixed, Pkt., 20c.

GODETIA (A)—An attractive, hardy annual deserving more extensive cultivation. The plants bloom profusely and bear showy flowers of rich and varied colors, one and one-half inches. Mixed, pkt., 5c.

GYPSOPHILA OR BABY'S BREATH (A)—A pretty, free-flowering plant. Fine for bouquets. Pkt., 5c. Perennial, Pkt., 10c.

HELIOTROPE (P)—A half-hardy perennial, growing four to eight feet high. Small flowers, borne in graceful clusters and very fragrant. Blooms the first season from seed if sown early. Forms a large plant and requires a roomy situation. Can also be grown against a wall and made to assume the character of a climber. Finest mixed, pkt., 15c.

HOLLYHOCKS (P) Charter's Superb Double. Finest Mixed.—These fine, old-fashioned perennials are most striking when planted in groups of long rows; their variety of color is wonderful. When plants are once obtained they last for several seasons. Double mixed, pkt., 10c.



Heliotrope

ICE PLANT—Tender Annual Traller—A pretty little trailer for baskets or massing; 6 inches high. Leaves covered with crystalline drops. Flowers white or pink. Valued for its remarkable foliage. Pkt., 5c.

JOB'S TEARS—Colx Lachryma—An annual ornamental grass, with broad, corn-like leaves and hard shining seeds of peculiar appearance, giving the plant its name. Two feet. Pkt., 5c.

KOCHIA TRICHOPHYLLA (Mexican Fire Bush, or Summer Cypress) (A)—A quick growing foliage or hedge plant, very symmetrical and attractive in summer and fall. The foliage is as fine as moss and of clean, bright, green color. Early in the fall innumerable little flowers appear and the bush takes on a deep red tinge. Sow outdoors early in spring, covering one-fourth inch deep; about two and one-half feet high. Pkt., 5c.

LARKSPUR (P) (Delphinium)—The Larkspur with its long clustered spikes of beautiful irregular flowers, often with long spurs, is especially

FLOWER SEEDS—Continued

valuable for its shades of blue. The annual forms are very desirable for bedding and the perennials are strikingly effective as a background for borders and for planting among shrubbery. Seed of annual varieties may be sown outdoors early in spring. For earlier blooming start very early indoors or sow in fall. Thin one to one and one-half feet apart. The perennial sorts are sown in fall or early spring.

ANNUALS—Double Dwarf Rocket, mixed, pkt. 5c. Double Tall Rocket, mixed, 5c. Perennial, Large Flowering, Dark Blue, Pkt., 10c.

LINUM (Scarlet Flax) (A)—One of the most effective and showy bedding plants, of long duration, having fine foliage and delicate stems, with brilliant scarlet-crimson flowers; hardy annual; one foot. Pkt., 5c.

LOBELIA (A)—A very valuable and beautiful dwarf-growing plant, delicate drooping habit and profusion of charming little blue and white flowers.

Dwarf Single, mixed, pkt., 10c. Single Tall Blue Specimens, pkt., 10c. Single Dwarf Blue, pkt., 20c.

MARIGOLD

Tagetes (A)—The African and French Marigolds are great favorites; free-flowering, hardy, of easy culture. The African varieties grow two to three feet tall, bear large yellow or orange-colored flowers, and are adapted for large beds or mixed borders. The French varieties are dwarfer in growth, with beautiful striped flowers three to four inches in diameter, and are better suited for bedding and pot culture. They succeed best in light soil with full exposure to the sun. Either variety is splendid for cut flowers.

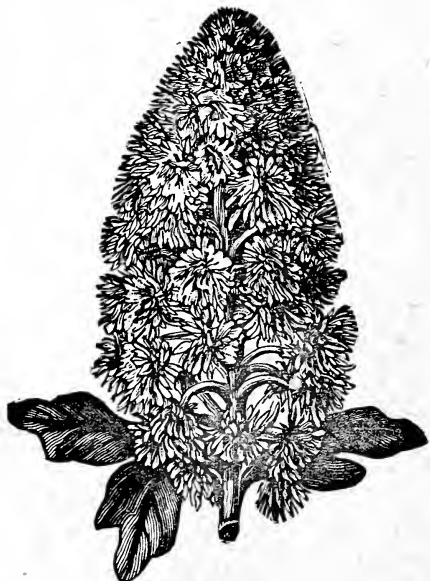
Tall Double African, about two feet high with flowers three to four inches in diameter, in shades of yellow and orange. Mixed, pkt., 10c.

Tall Double French, one and one-half feet high with large double flowers. Mixed, pkt., 10c.

Dwarf Double African, about one and one-half feet high; large flowers; desirable for shrubbery or mixed border. Mixed, pkt., 10c.

Dwarf Double French, one foot high with large flowers. Mixed, pkt., 10c.

Orange African Dwarf, very double; rich orange; profuse bloomer; very desirable. Pkt., 10c.



Mignonette

A well-known hardy annual producing dense spikes of exceeding fragrant flowers and much esteemed for this delightful fragrance. If sown in intervals it will bloom until frost.

Allan's Defiance—Spikes grow to a remarkable size and delicious fragrance. The individual florets are of immense size, forming a graceful as well as compact spike. Of extraordinary keeping qualities, retaining their grace and fragrance until every bud opens. Mixed, pkt., 10c.

GOLDEN MACHET—A compact growing variety with medium long thick spikes of yellow flowers. Pkt., 10c.

MIMOSA PUDICA (A) (Sensitive Plant)—A curious plant with globular heads of small pink flowers, chiefly valued because of the extreme irritability of its leaves which close and droop at the slightest touch, also in cloudy, damp weather and at night. Start in hotbed in pots, and transplant to a warm situation six inches apart. Tender annual; height one and one-half feet. Pkt., 5c.

MOSCHATUS (Musk Plant) (P)—Small yellow flowers, fragrant foliage; leaves musk scented; fine for hanging baskets. Pkt., 10c.

NASTURTIUM

For ease of culture, duration of bloom, brilliancy of coloring and general excellence nothing excels Nasturtiums. All they need is a moderately good soil in a well-drained, sunny position, and from within a few weeks from the time they are sown until hard frost comes there is an endless profusion of their gorgeous blossoms. No annual will produce such a lavish profusion of flowers for so long a time, with the same small outlay of time and labor. The maximum of bloom is produced in light or sandy soils and seldom diminishes through the hot weather.

TALL OR CLIMBING—(A)—Specially adapted for covering verandas, trellises, trees, stumps, etc. Mixed, pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 70c; lb., \$1.25.

TOM THUMB OR DWARF—(A)—When planted in beds or masses the brilliant effect of these splendid flowers is scarcely surpassed by any of our finest bedding plants. Mixed, pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 45c; ½ lb., 70c; lb., \$1.25.

VARIEGATED FOLIAGE—The colors range from deep crimson to yellow, buff and spotted; of fine form and of the largest size. Very effective, forming a fine contrast to the silver variegated or cream and green colored leaves of the foliage. Very showy and a decided novelty of most surpassing beauty. Tall and dwarf, Pkt., 10c; oz., 25c; 2 oz., 40c; ¼ lb., 75c.

NEMOPHILA — BABY EYES — LOVE-IN-THE-GROVE (A)—A charming little annual plant, thriving especially well in moist, shady places, but quite at home in the open garden. The pretty, bell-shaped flowers in shades of blue, and variously marked, are freely produced all summer. Plants eight inches high; of neat, bushy habit. Pkt., 5c.

NICOTIANA—AFFINIS (Tuberose-Flowered Tobacco) (A)—Delightfully sweet-scented, pure white tubular flowers, blooming continually; annual, two to three feet high. Pkt., 5c.

NIGELIA—LOVE IN A MIST OR DEVIL IN THE BUSH—DAMASCENA (A)—A compact, free-flowering plant with finely cut foliage, curious-looking flowers and seed pods; of easy culture, growing in any garden soil; hardy annual, blue and white mixed. Height one foot. Pkt., 5c.

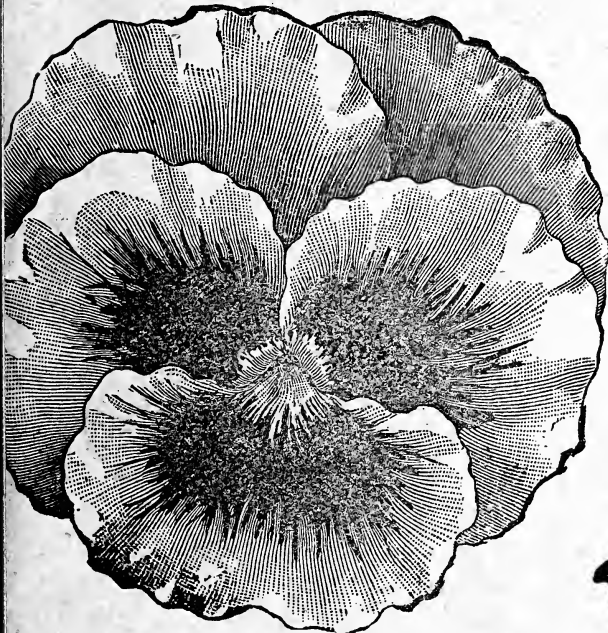
FLOWER SEEDS—Continued

PANSIES

PANSY (VIOLA ARICOLOR) (P)—A half-hardy perennial, growing four to six inches high and probably the best known and among the most popular flowers in cultivation. It thrives best in a moist, shady location, and in rich, loamy soil. Seed should be sown in the autumn for early spring blossoms, or can be sown early in the year for good flowers later in the spring.

FAUST—King 'of the Blacks—Almost coal black. The darkest Pansy grown. Pkt., 15c; ½ oz., \$3.00; oz., \$5.50.

FINEST MIXED—Fine assortment of colors. Pkt., 10c; ½ oz., \$3.00; oz., \$5.50.



Mastadon

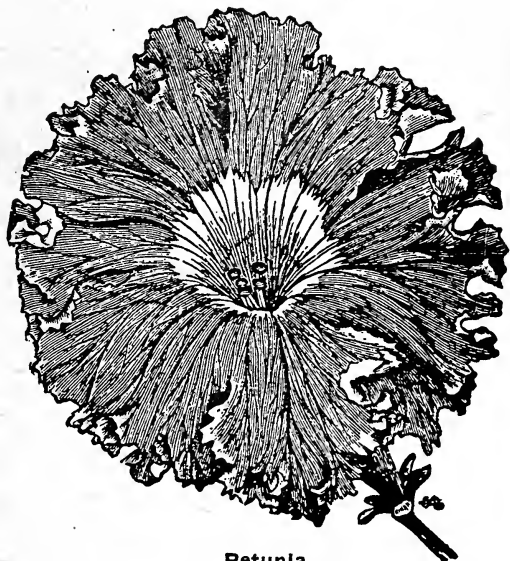
MASTODON—These have been carefully selected and bred up to their present surpassing excellence, and for giant size, substance, form and coloring we have never seen Pansies to compare with them. Named varieties and special strains are grown separately and the seed collected by hand and carefully blended into what we believe to be the finest mixture ever offered. Pkt., 25c; ½ oz., \$6.00; oz., \$11.00.

TRIMARDEAU CANDIDISSIMA—Snow white. Pkt., 20c; ½ oz., \$4.50; oz., \$8.00.

TRIMARDEAU GIANT, MIXED—A splendid mixture of various shapes and markings. The blossoms are perfectly round and are blotched at the base. Pkt., 20c; ½ oz., \$4.00; oz., \$7.00.

PETUNIA

PETUNIA (A)—Is without a peer among annuals for effective summer bedding or indoor culture. It is of easy culture, early to bloom and continues throughout the summer until the first killing frost. No other flower produces a greater diversity of color, retaining its freshness for so long a period. The doubles may be perpetuated, if desired, by taking cuttings late in the summer, for winter house blooming plants. Provide good soil and a sunny location.



Petunia.

Single Mixed, pkt., 10c; Single Fancy Mixed, pkt., 15c.

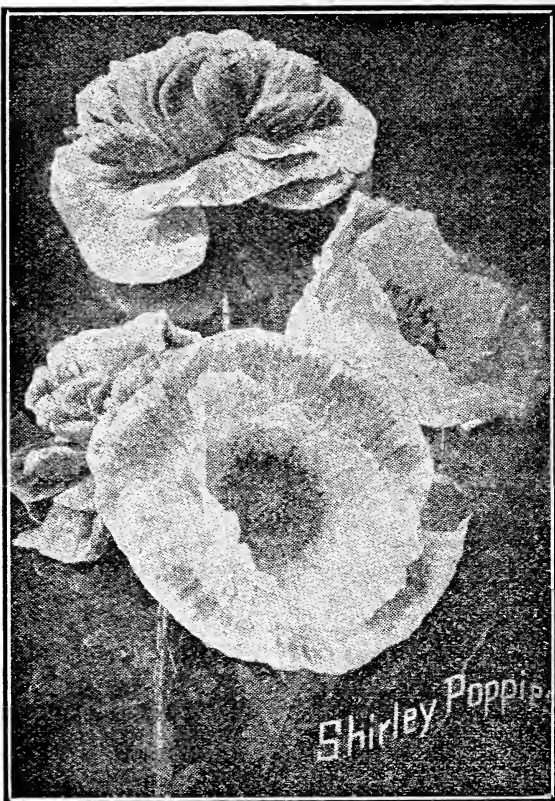
PHLOX



PHLOX DRUMMONDII (A)—Of all summer-flowering annuals, the varieties of Phlox Drummondii are unquestionably one of the most brilliant and satisfactory. Seed may be sown in the open ground any time after danger from frost is past, and in a few weeks the beds or borders are aglow with their brilliant coloring and remain so until cut down by frost. For early flowering they should be started indoors or in a hotbed. Grandiflora Mixed, pkt., 10c; Perennial Mixed, pkt., 15c.

Our most successful poultry men use Queen Incubators.

FLOWER SEEDS—Continued



POPPIES

Probably no class of plants enjoys greater popularity and is more widely grown than the annual poppies; this is especially true of the single varieties. They are easily grown, and should be sown in beds or wild patches, in early spring, where they will grow high above the grasses on tall, graceful stems.

CALIFORNIA (Eschscholtzia) (A)—The state flower of California; an annual of rich, rare tints of yellow and orange. About a foot in height, beautiful foliage and large poppy-like flowers. Pkt., 5c.

ICELAND (P)—A graceful, delicate variety, with single flowers, the petals resembling crumpled tissue paper. The plant is low-growing, but the stems are long and slender. Mixed, pkt., 10c.

ORIENTAL (P)—One of the showiest of the perennials, with enormous flowers. The leaf is long and deeply cut and clothed with white, bristly hair. Beautiful among shrubs, roses and other perennials. Mixed pkt., 10c.

SHIRLEY IMPROVED (A)—The most beautiful type of poppies, having soft, hairy foliage, and a variety of single blossoms in white, pink, lavender, purple, red and scarlet. Free blooming and fine for bedding or tall border. Pkt., 10c.

PORTULACA OR ROSE MOSS (A)—Brilliant, dwarf annuals, only six inches high, luxuriating in warm situations and blooming profusely from early summer to autumn. For low beds and masses of color, from spring until frost, they are indispensable; colors range through

innumerable shades of red, yellow, pink, striped, white, etc.

Single Mixed, pkt., 10c; Double Mixed, pkt., 15c.

PRIMROSE—SINENSIS OR CHINESE (P)—The beautiful, large fringed flowers stand in pyramids arranged on short flower stems. Blossoms of every shade of color, from pure white to deep crimson, and even deep blue; especially fine for winter and spring flowers in the house; easily grown; free bloomers. The finest single mixed. Pkt., 25c.

RICINUS, OR CASTOR OIL BEAN (A)—Ornamental plants of steady growth and picturesque foliage with brilliant colored fruit, producing a sub-tropical effect; fine for lawns, massing or center plants for beds. Finest Mixed, pkt., 5c; oz., 25c.



Salpiglossis (Velvet Flower)

SALPIGLOSSIS (A)—The quaint, funnel-shaped flowers somewhat resemble those of the Petunia; beautiful range for colors. Finest Mixed, pkt., 10c.

SALVIA (Flowering Sage)—Splendens—Sold also as "Splendens Bonfire." The large, brilliant scarlet flowers are in very striking contrast with the rich, dark green background of dense foliage. This variety is most generally used in parks and on extensive lawns, as it is more vigorous than the dwarf varieties. One of the most distinct and effective bedding plants. Two and one-half to three feet high. Pkt., 15c.

SCABIOSA, OR MOURNING BRIDE (A)—A free-flowering annual; colors, white, carmine, lilac, maroon, etc. Very effective for garden decoration and valuable for cutting. Dwarf or tall double mixed. Pkt., 5c.

SCHIZANTHUS (Butterfly Flower) (A)—Hardy, growing one and one-half to two feet high and covered with bright, showy, butterfly-like blossoms. Large flowering. Mixed pkt., 10c.

SNAPDRAGON, OR ANTIRRHIN (P)—One of the most useful and showy plants. Of almost every shade and color as beautiful as Carnations. They have recently been much improved and are now really magnificent. Hardy perennial.

Finest, Mixed, pkt., 5c. White, pkt., 10c. Pink, pkt., 10c.

FLOWER SEEDS—Continued

STOCK (Mathiola)—Sometimes called Gilli-flower. Considered almost indispensable where a fine display of flowers is wanted and particularly valued for edgings, bedding and pot culture. The improved varieties of this favorite garden plant produce dense spikes of very fragrant and beautiful rosette-like double flowers in a wide range of attractive colors. They are suitable for cutting, being produced on stems of good length in pleasing contrast with the dark green foliage of the bushy plants.

The Stock is one of the most popular annuals; for brilliance and diversity of color, fragrance, profusion and duration of bloom it is unsurpassed.

LARGE FLOWERING DWARF, 10 WEEKS

(A)—This is the leading class for bedding out or summer-blooming. Mixed, White, Dark Blue, pkt., 10c. Perennial Dwarf, pkt., 10c.

SUNFLOWER (Helianthus) (Double Dwarf)

(A)—This pretty sunflower grows to be 3 feet tall and has late in summer bright golden yellow flowers on stiff stem; fine for cutting. This is a pretty and refined flower four inches across. Pkt., 5c; oz., 40c.

SWEET ROCKET (Hesperis) (P)—Old-fashioned garden plant, and among the most desirable of hardy flowers; also known as Dame's Rocket and Dame's Violet; grows from two to three feet high, and bears spikes of showy white, lilac and purple fragrant flowers. Excellent for naturalizing among shrubbery or for planting in a permanent border; mixed colors. Pkt., 5c.

SWEET WILLIAM (P)—A well-known, attractive, free-flowering, hardy perennial, producing a splendid effect in beds and borders with rich and varied flowers. Mixed, Double, pkt., 10c; Mixed Single, pkt., 10c.

THUNBERGIA (Black-Eyed Susan) (A)—

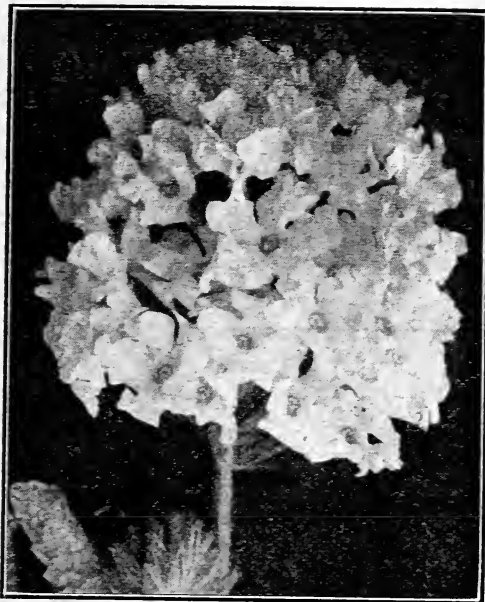
One of the best trailing plants for veranda boxes, vases, etc. Neat, compact growth. The pretty flowers, an inch in diameter, are white, buff or yellow, with black eye. Finest, Mixed, pkt., 10c.

TRITOMA (Red Hot Poker) (P)—The sturdy

plants average from two to five feet in height. The flower heads, borne on stout stems two to three feet long, are from six to nine inches in length, the colors including lemon to golden yellow, orange, orange-scarlet, and crimson. Plants in full bloom are exceedingly noble and striking in appearance. Where bright and bold effects either in the border or upon the lawn are desired nothing can exceed the beauty of this new early-flowering ever-blooming "Poker-Lily." Pkt., 10c.

VERBENA (A)—Very few annuals will make

such a gorgeous display during the summer months or furnish more flowers for cutting than the Verbena. Start seed in the house or under glass early in the spring and transplant after three or four inches of growth.



Verbena

They flower in July and continue strong and healthy until destroyed by frost. Mammoth Extra Choice, Mixed, pkt., 10c.

VINCA (Periwinkle) (P)—These very attractive bushy plants with glossy green foliage produce in abundance handsome round or salver shaped single flowers, suitable either for culture in pots or boxes or for summer bedding and borders. If sown early under glass and transplanted in a warm, sheltered situation will bloom in summer and autumn and may be potted for the house before frost. The plants require no trimming, are in continuous bloom from setting out until frost and are entirely free from the attacks of insects. These desirable features account for the increasing demand for Vincas in parks and private grounds for summer bedding and borders. Tender perennial, blooming the first season, about fifteen inches high. Mixed, pkt., 10c.

WALL FLOWER (P)—Produces spikes of beautiful, exceedingly fragrant flowers. Half-hardy perennial. Mixed, Single, large flowering. Pkt., 5c; Mixed Double, pkt., 20c.



Violets

Rydes Pig Meal is a great young pig developer. Best on the market.

FLOWER SEEDS—Continued

VIOLETS (P)—Violet *Odorata* is the well-known English Violet, a free-flowering, hardy perennial. Easily grown from seed, though somewhat slow in germinating; succeeds best in partially shaded moist places. Very early bloomer. Sweet scented, very pretty and very popular and a beautiful blue. Pkt., 10c.

GARDEN MIXTURE (A)—A garden is not complete without a bed of this mixture of flowering annuals. A package will sow a bed about two by ten feet, and if sown early in the spring will furnish continual bloom throughout the season. Pkt., 10c; oz., 40c; ¼ lb., \$1.00.



Zinnias

ZINNIAS (Elegans Grandiflora Double) (Youth and Old Age). (A)—Is one of the most brilliant and showy annuals, and has long been a general favorite. The seed can be sown early in the hotbed and transplanted, or sown later in the open ground. They come in flower early in the summer, and keep on blooming until first frost. Mixed, pkt., 10c.

SWEET PEAS

No garden is too small for a row of Sweet Peas, and no estate, however extensive or magnificent, should fail to include many varieties of this most popular flower. Hundreds of varieties have been offered for sale by seedmen, but owing to recent marked improvements many sorts are decidedly inferior and have been dropped from our list.

CULTURE—Early in spring make a trench three to four inches deep in rich, mellow soil, so arranged that no water can stand in it and plant the seed in the bottom, covering at first only one inch deep. Sweet Peas, particularly the white seeded sorts, are often a little difficult to start. If the soil is too dry they will remain a long time without germinating; if it is too wet and cold they will not sprout at all. In soils at all heavy, or composed largely of clay, put about one inch of sand in the bottom of the trench and sow the seed in this, covering with more sand. Cover the row with a board to shed the rain and protect the soil from the hot sun but remove this as soon as the young plants appear. When the plants are two inches high, cultivate and as they grow gradually fill up the

trench. When the plants are about five inches high it is desirable to furnish some support for the vines to run upon. The roots should not be allowed to become too dry. Water applied thoroughly once or twice a week, preferably early in the morning or in the evening, is usually better than light sprinkling more frequently. The blooms should be picked before they form pods or the plants will soon stop flowering.



Grandiflora Type

All varieties of Grandiflora Sweet Peas: Pkt., 5c; oz., 20c; 2 oz., 35c; ¼ lb., 60c; ½ lb., \$1.00; lb., \$1.75.

Blue

CAPTAIN OF THE BLUES—Standard light maroon. wings light purple.

LORD NELSON, OR "BRILLIANT BLUE"—A brilliant dark navy blue with tips of wings a lighter blue. Giant flowers, slightly hooded.

Lavender

COUNTRESS OF RADNOR—Self-colored in a very distinct and beautiful shade of lavender.

LADY GRISEL HAMILTON—A large soft lavender, tinted mauve; similar to Countess of Radnor, but nearer blue; hooded form. One of the best.

Maroon

BLACK KNIGHT—Glossy deep maroon, one of the darkest; medium size, open form.

OTHELLO—A very dark maroon, practically self colored with almost black veining. Large size, hooded form, very attractive.

Orange Pink

MISS WILLMOTT—A fine orange-pink, showing veins of deeper tint. Flowers semi-hooded. good size, on long stems; plant very vigorous.

Pink and Rose Shades

KATHERINE TRACY—Rose pink. Splendid, large, open flower, good substance and color, a vigorous grower and free bloomer.

PRIMA DONNA—One of the very best of the hooded pink grandiflora varieties. The flowers are of good size, clear soft shade; self-colored. The vines are of vigorous growth, often with three or four flowers on a stem.

FLOWER SEEDS—Continued

Red

FIREFLY—An intense crimson scarlet, of large open and expanded form. One of the best bright reds yet offered and its fiery coloring makes it a most desirable bouquet variety.

Rose With White Wings

BLANCHE FERRY—Blossoms very early and continues to produce abundantly through a long season. The standard is medium sized, of open form, and bright rose-pink; wings large, rounded nearly white. The typical pink and white sweet pea.

Striped and Variegated

AMERICA—Bright red on a silvery white ground; showy.

DAINTY—The beautifully formed large flowers, upon first opening, appear to be white, but quickly change to "white with pink edge"—making a most charming contrast.

SENATOR—Purplish maroon, heavily striped on a white ground. Darkest striped variety.

White

BLANCHE BURPEE—A splendid pure white variety.

EMILY HENDERSON—A bold, well-formed, clear white flower. Wings broad and well expanded. An early and wonderfully free and persistent bloomer.

DOROTHY ECKFORD—Pronounced by Sweet Pea experts to be the grandest pure white yet seen of the grandiflora type. Grows an enormous mass of blooms.

All varieties of the foregoing Grandiflora Sweet Peas: Pkt., 5c; oz., 20c; 2 oz., 35c; ¼ lb., 60c; ½ lb., \$1.00; lb., \$1.75.

Mixed

CLOVER LEAF LARGE FLOWERING—This elegant mixture embraces the introductions, including the recent novelties of Mr. Eckford, the Sweet Pea specialist of England, who has accomplished more than any other individual in bringing the Sweet Pea to its present state of beauty, size and perfection. Pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 75c; lb., \$1.25.

Spencers

The last few years has seen a wonderful development in Sweet Pea culture. For many years previously the "Grandiflora" type had maintained an unchallenged leadership, and new types were very slow in making their appearance. About ten years ago, however, after several years of experimenting, a distinctly new type was developed in the gardens of Earl Spencer in England. The new flower was called "Countess Spencer," and from this magnificent sort has been developed that remarkable class of Giant Orchid-Flowered Spencer Sweet Peas known and admired throughout the horticultural world. The "Grandiflora" are somewhat better able to adapt themselves to adverse conditions and under such conditions do give greater satisfaction, but when properly grown the "Spencer" in size of blossoms, beauty of form, substance and color, the unusual number on a stem, and the long continuance of their season, easily maintain an unapproachable leadership.



White Spencer

All varieties of Spencer Sweet Peas, unless otherwise quoted: Pkt., 10c; oz., 50c; 2 oz., 90c; ¼ lb., \$1.75; ½ lb., \$3.00; lb., \$5.50.

Crimson and Scarlet

MARIE CORELLI—The wings are a pure rich rose-crimson while the standard shows a tint of cherry-red. The whole effect is that of a brilliant crimson—clear, distinct and most beautiful. The standard is large, round and wavy; the wings are full and inclined to remain boldly upright instead of drooping. The long strong stems usually bear four flowers each.

MAUDE HOLMES—A brilliant sunproof crimson of the largest size. Of true Spencer form, wavy and fluted. The perfect blooms are carried on extra long stems. A crimson of real merit.

FLOWER SEEDS—Continued

Cream

DORIS USHER—Salmon-pink on cream ground. The flowers are of largest size, freely borne four on a stem. A splendid exhibition variety.

MRS. HUGH DICKINSON—One of the most chaste and charming varieties yet obtained. The coloring is a rich pinkish apricot on a cream ground, shading off rather lighter toward the center of the flower. The gigantic flowers are uniformly of the best Spencer type, and practically always borne in fours upon exceedingly long stems—and sometimes five flowers to a stem. The vines of most vigorous sturdy growth, begin blooming early and continue to flower in wonderful profusion.

Orange and Salmon

BARBARA—A superb salmon-colored self that makes a "telling" bunch either for exhibition or table decoration, but the flower requires to be slightly shaded.

HELEN LEWIS—The orange-rose wings roll and fold; the standard is reflexed, showing the distinctly fluted effect, and is of an intense rich crimson-orange. The blooms are truly of a gigantic size—the ruffled standard measuring two inches across.

ROBERT SYDENHAM—Is a magnificent glowing orange self, quite brilliant in color as Stirling Stent, but without cerise or pink. The large flowers are usually produced four on a stem, well placed and beautifully waved. The vines bloom profusely, while the flowers require only slight shading to preserve their wonderfully deep orange color.

Rose With White Wings

BLANCHE FERRY—Similar in color to the popular Blanche Ferry, but of true giant Spencer type. The standard is bright rose, the wings being pinkish or blush-white.

Pink

Dainty—It is a most beautiful pink-edged variety; the ground color is pure white with a very distinct margin of rose-pink. The general effect is light and dainty, as the white ground is particularly clear and glistening.

HERCULES—(Synonym, Kralissa.)—A self of truly giant proportions, undoubtedly the best of its class. A flower of great substance; the broad spreading and beautifully waved standard frequently measures two and one-half inches in diameter. This grand variety is a fitting companion in size and form to the superb gigantic Elfrida Pearson, from which it differs in being of a deeper, warmer shade.

JEAN IRELAND—The large standard is circular, of a very bright rose-pink, with a clear creamy base. The wings, large and well expanded, are beautiful blush in color, overlaid with rose.

MIRIAM BEAVER—A charming combination of bright apricot-pink on a primrose ground a little deeper at the margins and showing pure primrose at the base of the petals, of perfect Spencer form.

MRS. ROUTZAHN—Buff or apricot ground, flushed and suffused with delicate pink, deepening toward the edges. The flowers are of the largest size—thoroughly crimped and waved. The standard is broad and deep; the wavy wings are so large that they usually hide the keel. Decidedly the most beautiful "Apricot and Pink."

White

AGRICOLA—The flowers are white, delicately suffused soft, silvery lilac-pink.

CONSTANCE HINTON—Decidedly the best black-seeded, white-flowered variety. Flowers are of largest size, and come at times with a decided bluish tinge.

Yellow

PRIMROSE—The waved standard measures nearly two inches across; the crinkled wings are an inch across by one and one-eighth inches deep. The color is a clear primrose throughout.

All varieties of the foregoing Spencer Sweet Peas: Pkt., 10c; oz., 50c; 2 oz., 90c; ¼ lb., \$1.75; ½ lb., \$3.00; lb., \$5.50.

Mixed

CLOVER LEAF SPENCER—In this mixture we have used only the choicest and best of the Waved Spencer and have taken every care to produce in the mixture a proper balance of colors. We are confident that in offering this truly incomparable blend we are giving our customers the opportunity of securing the cream of the latest and best efforts in Sweet Pea culture. Pkt., 10c; oz., 30c; 2 oz., 50c; ¼ lb., 80c; ½ lb., \$1.50; lb., \$2.50.

VINES FROM SEEDS

BALLOONVINE (LOVE-IN-A-PUFF) (A)—A rapid growing annual climber; succeeds best in light soil and warm situation; flowers white; seed vessels like miniature balloons. Pkt., 5c; oz., 25c.

BEANS—Scarlet Runners—A great favorite, not only as an ornamental climber but for the delicious edible beans which succeed the bright scarlet sprays of pea-shaped blossoms. Pkt., 5c; oz., 10c; ¼ lb., 20c; ½ lb., 30c; lb., 50c.

FLOWER SEEDS—Continued

BEAN HYACINTH (Australian Pea Vine), (Dolichos) (A)—This really beautiful climbing plant is of quick growth; foliage is handsome and the clustered spikes of beautiful purple and white flowers are borne in great profusion. The shining purple seed-pods are also very ornamental. Tender annual, growing six to eight feet. Seed should be sown where plants are desired, in as warm and dry a spot as possible. Mixed, pkt., 5c; oz., 20c.

CANARY BIRD VINE (P)—A beautiful climber; flowers a bright golden yellow, bearing a fanciful resemblance to birds with expanded wings. Pkt., 5c.

CYPRESS VINE OR IPOMOEA QUAMOCLIT (A)—A climber of rapid growth, having handsome fern-like foliage and a profusion of bright, attractive flowers. Mixed, pkt., 5c; oz., 25c.

COBAE SCANDENS (A)—One of the handsomest and most rapid growing of the annual climbers. It climbs thirty feet in a season. The flowers are bell shaped and of a purplish lilac color. Very prolific and perfectly hardy. The vine is always clean of insects. Mixed, pkt., 10c.

GOURD (Cucurbita) (A)—A very extensive genus of trailing annuals with curiously shaped yellow fruit, commonly known as Ornamental Gourds. The vines are of easy culture and make a rapid growth, so are much used for covering old fences, trellises, stumps, etc. The foliage is ornamental, and the markings of some of the fruit extraordinary. Do not plant the seed till danger of frost is over, and select light, rich soil and a sunny situation. Water freely. Ten to twenty feet high. Mixed, pkt., 5c; oz., 30c.

FLOWER SEEDS—Continued

JAPANESE KUDZU VINE (A)—The Kudzu Vine comes from Japan, the land so productive of curious and ornamental flowers. It is a beautiful climber, remarkable for its great vigor of growth and its handsome flowers. The blossoms are large and in panicles somewhat like the Wistaria, but larger in size and with better clusters. The color is a pleasing shade of purple. The foliage is luxuriant. The vine is extremely rapid and dense in growth, perfectly hardy, increasing in size and beauty year after year; fine for arbors, verandas, etc.: Pkt., 10c.

JAPANESE HOP (Humulus) (A)—Variegated Japanese Hop. A charming climber, attaining a growth of 20 to 25 feet in a few weeks. The leaves (6 to 7 inches across) are beautifully marked and variegated with white yellowish green and dark green. Not injured by insects or by heat, and the vine retains its beauty until frost. Hardy, the roots living over winter, though it is not a true perennial. Pkt., 10c.

MOON FLOWER, OR IPOMOEA, MEXICANA GRANDIFLORA (A)—Rapid growing climber, belonging to the Morning Glory family. The flowers are large, waxy white and very showy. Pkt., 10c.

MORNING GLORIES (A) (Convolvulus major, Ipomoea purpurea)—A handsome showy climber of easy culture and suitable for covering arbors, windows, trellises, old stumps, etc., if support be given the vines. Hardy. Seed is usually sown outdoors early in spring in row where plants are to remain. Well pulverized soil should be used and the seed covered one-half inch deep; thin four to six inches apart. If very early blooming is desired, seed may be started indoors and transplanted. Give some support such as strings or cord to the vines as soon as they begin to run and they will often exceed ten feet in height before the season is over.

Morning Glory (A)—Tall, fine mixed, a great variety of colors of the popular old-fashioned sorts. Pkt., 5c; oz., 20c; 2 oz., 30c; ¼ lb., 50c.

Giant Japanese (Imperials) (A)—The flowers of this variety are of largest size, often three inches or more across; some are brilliant red or rich blue, others are equally brilliant, with broad margins of clear white; some are striped or dotted with blue or red on white or lemon yellow ground, others are clouded with blue and red. The foliage in some plants comes plain green, in others it is mottled with white and shades of yellow or yellowish green. Seed black, larger than other varieties of Morning Glory. Pkt., 10c; oz., 30c; 2 oz., 50c; ¼ lb., 90c.

NASTURTIUM, TALL OR CLIMBING (A)—A very well-known ornamental, profuse flowering plant, adapted for rock work. The seeds, if picked young, are an excellent substitute for capers. Mixed, pkt., 5c; oz., 15c; 2 oz., 25c; ¼ lb., 40c; ½ lb., 70c; lb., \$1.25.

SMILAX (BOSTON IVY) (P)—Charming tender, perennial climber for greenhouse or window gardens. The foliage and stems are of a pleasing light green; very graceful; excellent for decoration. Pkt., 10c;

VINES FROM ROOTS

CINNAMON VINE—This climber is appropriately called Cinnamon Vine. Very hardy, the stem dying down every autumn, but growing again so rapidly as to cover completely any trellis or arbor early in the season. With its beautiful heart-shaped leaves and clusters of delicate white flowers, and most delicious cinnamon odor, is a most desirable climber. Each, 10c; 3 for 25c; ½ doz., 40c. Postpaid, doz., 75c.

HONEYSUCKLE—Grows vigorously, with yellowish white, fragrant flowers. Postpaid, 75c.

HOPS—Are the most rapid growers of any vine coming from the roots each spring. Their rapid growth and large broad leaves cover a porch before the arrival of the hot days of the summer. Postpaid, each, 10c; doz., 75c; 50, \$3.00; 100, \$5.00.

MADERIA VINE—A beautiful rapid climber, bearing graceful racemes of fragrant white flowers, very pretty and useful. Each, 10c; 3 for 25c; ½ doz., 40c; doz., 75c.

VIRGINIA CREEPER—Has large, luxuriant foliage, which in autumn assumes the most gorgeous and magnificent color; one of the finest vines for covering trellises, or verandas. Postpaid, 75c.

Bulbs

SUMMER FLOWERING

There is nothing in floriculture that will give greater satisfaction or produce such grand results as this class of bulbs, which includes some of our showiest garden flowers. They are of the easiest culture. Planted in spring in good garden soil, they flower with great certainty during summer and fall. The hardy sorts may remain in the ground over winter, but tender sorts should be taken up after the foliage dries in the fall and the bulbs stored away in a cool place until planting time in the spring.

CANNAS

Cannas should be planted in good, rich garden soil, mixed with half of old rotten stable manure by the end of May, when danger from frost is past. Water sparingly for first two weeks after planting. When growing freely water liberally. They are quick growers and bloom continuously until frost. Inexpensive, these charming ornamental plants produce rich tropical effects that cannot be excelled, and they are equally valuable for the beauty of their bloom.

Orange Flowers, Green Foliage

ORANGE BEDDER—Particularly attractive bright orange, with just enough scarlet suffusion to intensify the whole to a dazzling mass. Undoubtedly the best orange in existence. Each 15c; ½ doz., 75c; doz., \$1.25.

PANAMA—The color and markings of this splendid Canna are unusual; the rich orange-red face of the petals is bordered with a broad edge of golden-yellow, the florets are large and produced very freely. Height, 3 feet. Each, 15c; ½ doz., 75c; doz., \$1.25.

Pink Flowers, Green Foliage

HUNGARIA—The ideal pink bedding Canna; flowers large, in good sized trusses, produced early, freely and continuously, in color not unlike that of the Paul Neyron Rose. It possesses a softness and refinement not found in any other. Height 3 to 3½ feet. Each, 20c; ½ doz., \$1.00; doz., \$1.75.

CITY OF PORTLAND—This is the best pink Canna in existence. The flowers are of largest size, borne on heavy trusses, and bloom continuously. The color is a glowing shade of pink, much brighter and clearer than any other pink variety. It is a profuse bloomer and one of the best varieties of bedding. The foliage is substantial and strong, of rich green color and free from defects. Height 3½ feet. Each 20c; ½ doz., \$1.00; doz., \$1.75.

BULBS—Continued.**Red Flowers, Green Foliage**

ALPHONSE BOUVIER—A deep cardinal, growing to a height of five or six feet, with splendid foliage; large flowers borne on good trusses. Height, 5 feet. Each, 15c; ½ doz., 75c; doz., \$1.25.

DRAGON—A remarkably rich color, best described as deep ox-blood. Robust and free blooming. Height 3 feet. Each 15c; ½ doz., 75c; doz., \$1.25.

METEOR—A magnificent beeding variety of strong, robust habit, with green foliage and enormous trusses of large, bright blood-red flowers freely produced well above the foliage. Height, 5 feet. Each, 15c; ½ doz., 75c; doz., \$1.25.

Spotted Flowers, Green Foliage

FAVORITE—A rich deep golden-yellow, produced on tall stems high above the foliage. The red dots, which are not too pronounced add to the piquancy of the flower, without detracting from the golden mass effect. Each, 15c; ½ doz., 75c; 1 doz., \$1.25.

GEM—This is an entirely distinct and very pretty variety of the spotted type. The immense trusses of flowers are borne on upright, branching stems well above the foliage. In color it is a deep cream or straw-yellow dotted and spotted with pale carmine. A vigorous grower, free flowering, producing a most refined effect. Each, 15c; ½ doz., 75c; doz., \$1.25.

UHLBERG—The flowers are soft rosy carmine with creamy yellow throats and crimped edges of pale yellow. Height 3 feet. Each 15c; ½ doz., 75c; doz., \$1.25.

White Flowers, Green Foliage

EUREKA—A free bloomer and its great trusses of perfectly formed, creamy white flowers stand nicely above the dense green foliage on stiff, upright stems. Each, 20c; ½ doz., \$1.00; 1 doz., \$1.75.

MAROS—Very free flowering, creamy white; one of the best. Each, 20c; ½ doz., 90c; doz., \$1.50.

Yellow Flowers, Green Foliage

BUTTERCUP—Bright buttercup-yellow. Each 15c; ½ doz., 75c; doz., \$1.25.

YELLOW KING HUMBERT—Deep, rich yellow, spotted with bright red, 3½ feet. Each, 20c; ½ doz., 90c; doz., \$1.75.

Red Flowers, Bronze Foliage

KING HUMBERT—In this grand new Italian Canna we have a combination of the highest type of flower with the finest bronze foliage. Its flowers, which under ordinary cultivation will measure six inches in diameter, and which are produced in heavy trusses of gigantic size, are of a brilliant orange-scarlet, with bright red markings, while the foliage is broad and massive and of a rich coppery bronze with brownish-green markings. Bold and effective. Makes a gorgeous effect when planted in mass. Height, 5 feet. Each, 20c; ½ doz., \$1.00; 1 doz., \$1.75.

BRANDYWINE—Luxuriant dark bronze foliage crowned by heavy trusses of rich red flowers. Each bloom is beautifully dappled with deep crimson, and the lower petals are sometimes edged with bright gold. Height 4 feet. Each 15c; ½ doz., 75c; doz., \$1.25.

EGANDALE—A fine, bronze-leaved variety; cherry red flowers, borne well above the foliage; very handsome. Height, 4 feet. Price, each, 20c; ½ doz., 90c; doz., \$1.50.

Scarlet Flowers, Bronze Foliage

REMARKABLE—A distinct and effective variety on account of its beautiful bronze foliage and scarlet-carmine flowers which force attention. The tall, graceful habit and strong coloring make it a valuable addition. Each 20c; ½ doz., \$1.00; doz., \$1.75.

WINTZER'S COLOSSAL—Five feet. Without doubt the largest-flowered Canna to date, as the average flowers more than cover a man's hat. The color is a strikingly vivid scarlet that retains its brilliancy. Each, 20c; ½ doz., \$1.00; doz., \$1.75.

Two Remarkable Varieties

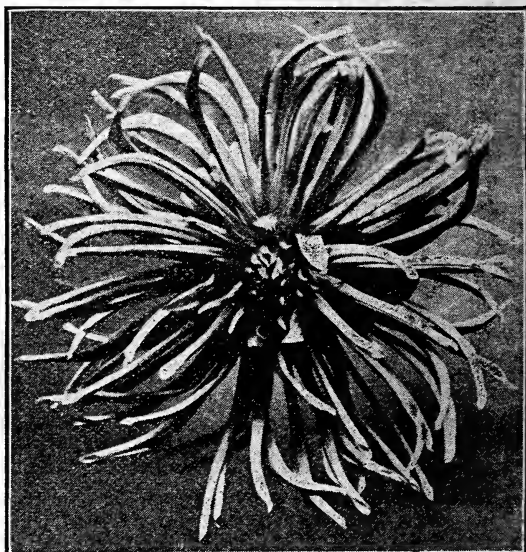
FIREBIRD—This is by all means the very best red-flowered, green-leaved Canna today.

The flowers are borne in immense trusses, on tall stalks well above the leaves. They are of splendid form, round and shapely. The petals measure two and one-half inches and over across, and the color is a clear glistening scarlet without streaks, spots or blotches. Each, 25c; ½ doz., \$1.25; doz., \$2.25.

GOLDBIRD—The flowers of this variety are equal in size to those of Firebird, to which it is a good companion; in color a soft buttercup-yellow, produced in very large trusses; plant very vigorous. Height, 4 feet. Each, 20c; ½ doz., \$1.00; doz., \$1.75.

DAHLIAS

The Dahlia is one of the showiest of all autumn flowers. Commencing to flower in July, they are a perfect blaze of bloom until stopped by frost. Especially fine for cut flowers. They have been greatly improved and are growing in favor from year to year. The following selections have been made with the greatest care, and every one will be found to possess true merit, and with proper care and conditions will amply repay the care and attention that has been given them.

CACTUS

The Cactus forms of Dahlias are exceedingly beautiful, and are hard to excel. They have long twisted petals and embrace nearly all the colors and shades to be found in any of the other types. The petals being closely rolled out-

BULBS—Continued

wardly, and the pointed ends standing apart, give a distinctly starlike form to the flowers; in some the long slender petals are charmingly curled. For large size, exquisite colors, elegance of form and profusion of bloom these following varieties represent the latest and best in Cactus Dahlias.

All 25c Dahlias: $\frac{1}{2}$ doz., \$1.35; doz., \$2.50.
 All 35c Dahlias: $\frac{1}{2}$ doz., \$2.00; doz., \$3.50.
 All 40c Dahlias: $\frac{1}{2}$ doz., \$2.25; doz., \$4.00.
 All 50c Dahlias: $\frac{1}{2}$ doz., \$2.75; doz., \$5.00.
 All 60c Dahlias: $\frac{1}{2}$ doz., \$3.25; doz., \$6.00.

Pink

COUNTESS OF LONSDALE—A peculiar but pleasing blending of salmon-pink and amber, a color difficult to describe. This is the Dahlia for the million. Blooms freely under all conditions. Each, 60c.

LIBELLE—A very free variety, with large flowers of good form; of a distinct purple color, rich and pleasing. Each, 40c.

Red and Scarlet

FLORADORA—A remarkably free-flowering, bright, blood-red. Each, 40c.
 Each, 50c.

GENERAL J. B. SETH—Rich, brilliant scarlet with orange scarlet shadings; perfect form. Each, 50c.

STANDARD BEARER—Rich, fiery-scarlet, free and of perfect form. Each, 50c.

WHITE

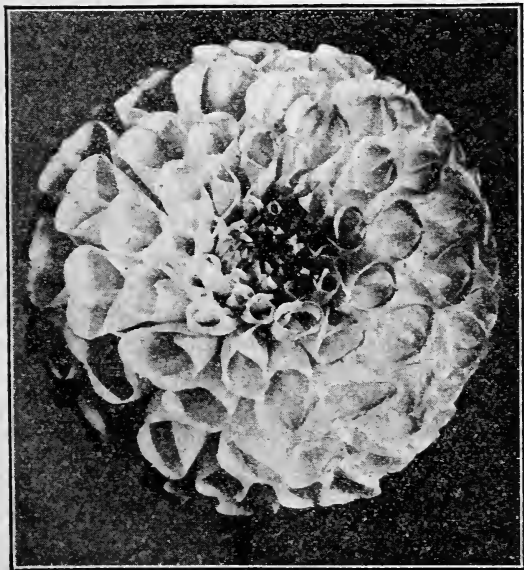
PIERRE DE LYON—Petals cleft at the tip. Pure white flowers, large, full and borne on long stems. Each, 35c.

RHEINKONIG—Pure snow-white flowers of splendid form, 5 inches and over in diameter. These are of great substance, lasting splendidly when cut; they are borne on long, stiff stems held well above the foliage, making it as valuable for garden decoration as for cutting. Each, 35c.

Yellow

GOLDLAND—A splendid primrose yellow; perfect form and very free flowering. Each, 40c.

One each of these eight varieties of beautiful Cactus Dahlias, \$3.00.

DECORATIVE**Pink**

DELICE—The most popular pink variety. Its beautiful, soft, yet lively color, a glowing rose-pink, together with its perfect shape, stout, stiff stems, and the fact that when cut it retains its freshness for a long time, makes this one of the most valuable for cutting or decorative sorts in the garden. Each, 35c.

SYLVIA—Deep pink tinting to flesh pink at center; large perfect form, on long stiff stems. One of the best for cutting or garden. Each 35c.

Red and Scarlet

GAIETY—A splendid variegated or fancy variety, in color a bright strawberry red. Each petal having a broad band of white through the center. Each, 40c.

LYNDHURST—Brightest vermillion; one of the best bright red for cutting. An early, free and continuous bloomer, with long straight stems. Each, 35c.

MINA BURGLE—It is one of the freest flowering decorative varieties; 30 large, perfect flowers on one plant at a time not being unusual; in color it is a rich, luminous, dark scarlet; these flowers are carried on long, stiff stems; splendid both for cutting and garden decoration. Each, 40c.

White

EVENTIDE—A splendid flower of perfect form and large size on long stiff stems, which, for all purposes, may be termed white, there being but the faintest flush of delicate rose on the edge of the flower, which seems to intensify its pureness. Each, 50c.

MONT BLANC—An early, free, continuous flowering, creamy-white on good stiff stems. One of the most important cut flower varieties. Each, 40c.

PRINCESS JULIANA—Pure white flowers, well formed and produced on long stems. Each, 50c.

Yellow

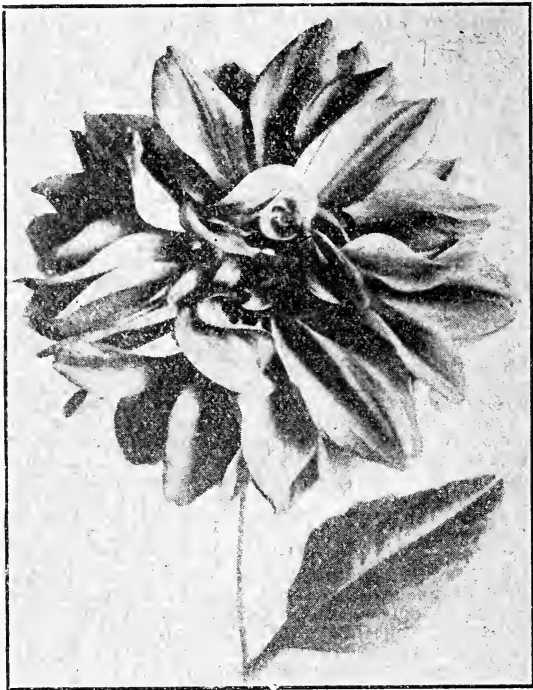
MISS MINNIE McCULLOUGH—One of the most popular cut flower varieties now grown; particularly valuable for use under artificial light. Color soft yellow, overlaid with bronze; a beautiful autumnal tint. Each, 35c.

One each of these nine beautiful decorative Dahlias, \$3.00.

Rydes Calf Meal is a complete food for calves and is the most successful milk substitute on the market.

BULBS—Continued.

SHOW



LAVENDER

EMILY—Delicate lavender overspread with white. The daintily blended colors make this an exceptionally beautiful Dahlia. Each, 35c.

Pink

A. D. LIVONI—A splendid, clear pink, beautifully quilled, of perfect form and very free-flowering. Each, 40c.

DOROTHY PEACOCK—The flowers are of large size, exquisite form, great substance; and the color is that beautiful, clear, live pink that appeals to everyone. Each, 40c.

Red

RED HUSSAR—Pure cardinal-red; perfect in form. Each, 25c.

White

DEELIGHTED—One of the largest and finest show Dahlias in existence, immense double flowers six to eight inches across and is snow white. The center in many of the blooms is elongated in such a way it suggests the Roosevelt smile. Each, 60c.

DREER'S WHITE—It still remains at the head of the list of all white show varieties; it is of purest color, a live glistening white, closely resembling in form the variety Grand Duke Alexis, while in freedom of flowering it is not surpassed by any. It has succeeded in all parts of the country, has been greatly admired at the exhibitions where shown, and has in most cases been awarded the premier prizes as the finest white show variety. Each, 60c.

MISS MINNIE VOSSBURG—One of the very best free flowering, perfect balls; creamy white, long, wiry stems. Ideal for cutting. An early and continuous bloomer. Each, 35c.

WHITE SWAN—Large, pure white flowers; always borne upon long stems. Each, 35c.

Yellow

ARABELLA—Light sulphur-yellow, shaded peach-blossom on edges; a fine flower. Each, 40c.

PRINCESS VICTORIA—A sterling variety, being the earliest and freest-flowering primrose-yellow; never produces an imperfect flower and is in bloom early and late; long, stiff stems; fine for cutting. Each, 35c.

One each of these ten varieties of fine show Dahlias, \$3.50.

All 25c Dahlias: $\frac{1}{2}$ doz., \$1.35; doz., \$2.50.
All 35c Dahlias: $\frac{1}{2}$ doz., \$2.00; doz., \$3.50.
All 40c Dahlias: $\frac{1}{2}$ doz., \$2.25; doz., \$4.00.
All 50c Dahlias: $\frac{1}{2}$ doz., \$2.75; doz., \$5.00.
All 60c Dahlias: $\frac{1}{2}$ doz., \$3.25; doz., \$6.00.

Gladioli



Gladioli are the most satisfactory, desirable and popular of all the garden bulbs. Nothing else of the kind costs so little, grows and blooms so readily in any soil or climate as Gladioli. They thrive and bloom with the least care and attention, and make a display which for brilliancy and beauty of coloring few bulbs can equal and none surpass. Plant any time from March to June.

In straight or assorted lots. All Gladioli at 60c per doz.; 50, \$2.25; 100, \$4.00.

At 75c doz.; 50, \$2.75; 100, \$5.00.
At \$1.00 doz.; 50, \$3.75; 100, \$7.00.

Blue

BARON HULOT—Good-sized flower; well arranged on straight spikes; color dark violet, bordering on blue. Each, 10c; $\frac{1}{2}$ doz., 55c; doz., \$1.00.

CATHARINA—A wonderful grayish light blue lower petals a little deeper blue with brownish red spot. A very attractive variety. Each, 8c; $\frac{1}{2}$ doz., 40c; doz., 75c.

Maroon

CHRIS—Dark maroon, purplish shaded. Each, 10c; $\frac{1}{2}$ doz., 55c; doz., \$1.00.

GOLIATH—This, as its name implies, produces large flowers, which is very attractive and beautiful and of a very fine dark purplish color. Each, 10c; $\frac{1}{2}$ doz., 55c; doz., \$1.00.

Pink

AMERICA—A beautiful soft flesh pink. By far the most vigorous and easily grown Gladiolus known. Strong and healthy with luxuriant dark-green foliage and a freedom of growth and flowering surpassing all others. Spikes two to three feet long, erect with a great number of large spreading blossoms, all facing one way and showing a color, the delicacy and beauty of which it is impossible to describe or reproduce. It is an exquisite, soft lavender pink, very light, almost a tinted white. Each, 7c; $\frac{1}{2}$ doz., 35c; doz., 60c.

PINK PERFECTION—A very fine bright light pink, with large flowers. One of the very best. Each 10c; $\frac{1}{2}$ doz., 55c; doz., \$1.00.

BULBS—Continued.

PANAMA—An introduction of sterling merit, is a favorite wherever high grade varieties are grown. It is similar to and has all the good qualities of America, but in color is a rich rose-pink. Unquestionably one of the finest. Each, 10c; ½ doz., 55c; doz., \$1.00.

TACONIC—Bright lively pink, flecked and striped with shades of the same color. Each, 10c; ½ doz., 55c; doz., \$1.00.

Red and Scarlet

CRIMSON GLOW—Extra large flowers, tall spikes of a brilliant crimson. Very showy.

GOLDEN WEST—Bright orange red, with some darker stripes. Each, 10c; ½ doz., 55c; doz., \$1.00.

MRS. FRANCIS KING—Of exceptional value for cut flower use. Color is a very pleasant light scarlet, strikingly attractive. Separate flowers often measure 4 to 5 inches across and 5 to 6 flowers are open at one time. Each, 7c; ½ doz., 35c; doz., 60c.

WAR—Deep blood red, very large flowers, one of the best. Strong grower. Each, 10c; ½ doz., 55c; doz., \$1.00.

Spotted

CRACKER JACK—Dark red, throat spotted with yellow and maroon. Each, 7c; ½ doz., 35c; doz., 60c.

HALLEY—The predominating color of these flowers is delicate salmon-pink with a slight roseate tinge, though the lower petals bear a creamy blotch with a stripe of bright red through the center, the whole producing a delightful effect. Each, 7c; ½ doz., 35c; doz., 60c.

MRS. FRANK PENDLETON—The flowers are very large and well-expanded, of a lovely flushed salmon-pink with brilliant carmine, or deep blood-red blotches in the throat, presenting a vivid contrast of orchid-like attractiveness. It is of the Lemoinei type in form and color effect, with a gandavensis stem, so that it takes up water freely and opens up perfectly nearly every flower after being cut and placed in water. Each, 10c; ½ doz., 55c; doz., \$1.00.

MR. THEODORE—Light scarlet, white blotch spotted with scarlet. Very attractive. Each 8c; ½ doz., 40c; doz., 75c.

White

AUGUSTA—Pale white, small rose stripes on lower petals. Each 7c; ½ doz., 35c; doz., 60c.

GLORY OF HOLLAND—Pure white, very fine and showy.

LILY LEHMAN—Ivory white lily shaped flowers, very beautiful. Each, 10c; ½ doz., 55c; doz., \$1.00.

PEACE—Flowers are large, of good form, correctly placed on a heavy, straight spike. Beautiful white, with pale lilac feathering on inferior petals. Each 10c; ½ doz., 55c; doz., \$1.00.

Yellow

KLONDYKE—Pure soft yellow, with dark blotches, small flower but very attractive. Each, 7c; ½ doz., 35c; doz., 60c.

NIAGARA—Creamy yellow shading to canary yellow, very beautiful and attractive. Each, 10c; ½ doz., 55c; doz., \$1.00.

SCHWABEN—A very vigorous grower, also very free flowering. A clear canary yellow shading to sulphury yellow when open. Each, 10c; ½ doz., 55c; doz., \$1.00.

YELLOW HAMMER—A pure yellow with a little red mark in the throat. Each, 10c; ½ doz., 55c; doz., \$1.00.

In straight or assorted lots all Gladioli:

At 60c per doz.; 50, \$2.25; 100, \$4.00.

At 75c per doz.; 50, \$2.75; 100, \$5.00.

At \$1.00 per doz.; 50, \$3.75; 100, \$7.00.

Clover Leaf Gladioli Mixtures

CLOVER LEAF MIXTURE—Gladioli mixtures can be purchased at almost any price and under almost any name, and it is a difficult matter for the purchaser to decide which is best. Our advice would be not to purchase small bulbs simply because they are quoted cheaper. Difference in cost is far more than compensated for in the better satisfaction obtained by planting the larger bulbs.

This year we are offering our Clover Leaf Mixture in two sized bulbs, the only difference being difference in size, as the mixtures are exactly alike.

No. 1 Bulbs: ½ doz., 35c; doz., 60c; 50, \$2.25; 100, \$4.00.

No. 2 Bulbs: ½ doz., 30c; doz., 50c; 50, \$1.75; 100, \$3.25.

LILY OF THE VALLEY

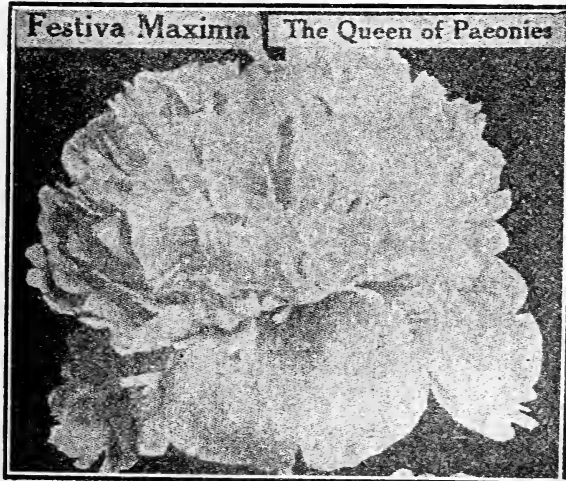
One of the most satisfactory and charming spring flowering plants, producing in profusion its delicate bell-shaped delightfully fragrant white flowers. Lillies of the Valley thrive in any common soil, are perfectly hardy, and will succeed in shady situation. It is almost impossible to secure any of these this season, but we believe we have our stock secured and hope to be able to fill all our orders in full. 3 for 25c; doz., 90c; 50, \$3.25; 100, \$6.00.



Paeonies

There is no hardy perennial which equals the Paeony in beauty and usefulness. Once planted, the plants and flowers increase in size and beauty with age. They are as hardy as oaks and as handsome (many as fragrant) as roses. When the plants are through blooming they are as handsome and ornamental as most of the hardy shrubs. The plants are practically immune from insects. We would advise our customers to beware of "cheap Paeonies. An inferior variety will take as much care and space as a choice one, and the first cost of a Paeony is nothing compared to the disappointment after years of waiting.

Festiva Maxima The Queen of Paeonies



PAEONIES—Continued

In straight or assorted lots:

All 50c	Paenies:	\$2.50	1/2 doz.;	\$4.50 doz.
All 60c	Paenies:	\$3.00	1/2 doz.;	\$5.50 doz.
All 75c	Paenies:	\$4.00	1/2 doz.;	\$7.50 doz.
All 90c	Paenies:	\$5.00	1/2 doz.;	\$9.50 doz.
All \$1.00	Paenies:	\$5.50	1/2 doz.;	\$10.00 doz.
All \$1.25	Paenies:	\$6.50	1/2 doz.;	\$12.00 doz.

LILAC

A TULIPE—Medium large. Lilac fading to creamy white with outer guard petals striped and center petals tipped with carmine. Late. Each, 75c.

MONS. JULES ELIC—Pale lilac rose with a silvery reflex. One of the best lilacs. Each, \$1.25.

Pink

ALBERT CROUSSE—Large, very full, evenly formed bloom; fresh-pink; center shaded with clear pink. Petalage small and very dense. An unusually high-class Paenony. Each, \$1.00.

EDULIS SUPERBA—This is the famous Decoration Day Peony. Color, a beautiful bright, clear pink, with silvery reflex. To those who want flowers on Decoration Day, buy *Edulis Superba*. Each, 50c.

EUGENIE VERDIER—Pale hydrangea-pink, collar lighter; center deeper flecked crimson; fragrant; very distinct from Eugene Verdier, with which it is often confused. Each, \$1.00.

TRIOMPHE DU NORD—Very even violaceous pink, enormous bloom. Late mid season. Each, 50c.

Red and Rose

FELIX CROUSSE—The ideal of self-colored red Peony, large, globular and compact, an even shade of bright red without trace of any other color; a strong, vigorous grower with long stems, making this variety one of the most important commercial cut-flower sorts. Each, \$1.00

OFFICINALIS ROSEA—Beautiful bright rose with globular flowers, blooms with *Officinalis Alba* and *Rubra*, producing fine flowers for Decoration Day. Each, 75c.

OFFICINALIS RUBRA—Bright scarlet crimson; double and globular. Early. Each, 75c.

ROSE QUEEN—This is, as its name implies, queen of the rose-colored Paenies. Of medium color, fine bloomer and very attractive. Each, 50c.

White

AVALANCHE—Avalanche, in our estimation, is one of the finest Paenies grown. Large, convex bloom of perfect form; color, milk-white, with cream-colored center; has ruby-colored markings of rare delicacy and beauty on some of its petals. A superb Paenony. None better. Each, 90c.

COURONNE D'OR—Immense, very full imbricated bell-shaped blooms; color snowy with yellowish reflex with light carmine edges on a few center petals. Grand cut-flower sort. Comes in after all other long-stemmed whites are done. Very late. Each, 90c.

FESTIVA MAXIMA—This truly superb variety, the finest white in cultivation, has for nearly three quarters of a century been the standard by which all other sorts have been judged. A giant in growth. No other variety combines the wonderful purity of color, freedom and earliness of flower, handsome foliage as this "Queen of Paenies." This variety is probably better known throughout the world than any other. Each, 50c.

QUEEN VICTORIA—A strong growing, pure white variety with creamy white center. One of the most popular standard cut flower varieties. Each, 50c.

In straight of assorted lots:

All 50c	Paenies	\$2.50	per 1/2 doz.;	\$4.50 doz.
All 60c	Paenies	\$3.00	per 1/2 doz.;	\$5.50 doz.
All 75c	Paenies	\$4.00	per 1/2 doz.;	\$7.50 doz.
All 90c	Paenies	\$5.00	per 1/2 doz.;	\$9.50 doz.
All \$1.00	Paenies	\$5.50	per 1/2 doz.;	\$10.00 doz.
All \$1.25	Paenies	\$6.50	per 1/2 doz.;	\$12.00 doz.

Mixed Colors

These mixed colors are not mixed and sold cheap because of small roots or inferior blooms, but because names and colors have been misplaced. Very highly recommended. Each, 35c; 1/2 doz., \$1.90; doz., \$3.50.

Tritoma, or "Red-Hot Poker"
Plant

TRITOMA PFITZERI—A great improvement upon the *Tritoma Uvaria Grandiflora*, blooming for a much longer period. It grows from four to six feet high; the flower-spike is often five feet high, and the flower measures twelve to fifteen inches long by four inches in diameter. They are a dazzling scarlet, lower half of flower tinged with rich orange. A clump makes a striking show. Each, 25c; 1/2 doz., \$1.25; doz., \$2.25.

Rydes Pig Meal is a great young pig developer. Best on the market.

Our most successful poultry men use Queen Incubators.

ROOTS. FLOWERING. HARDY PERENNIALS

Variety.	Time of Blooming.	Height	Color	Prices	
				Prepaid Each.....	Prepaid dozen.....
Alyssum, Saxatile	Spring.....	1 foot.....	Yellow.....	\$0.35	\$3.50
Aquilegia (Columbine)					
Hybridum	June-Sept.....	30 inches.....	Mixed.....	.35	3.50
Aquilegia (Columbine)					
Elegantissima	June-Sept.....	30 inches.....	Mixed.....	.35	3.50
Aquilegia (Columbine)					
Chrysanta	June-Sept.....	30 inches.....	Yellow.....	.35	3.50
Aquilegia (Columbine)					
Dwarf	July.....	15 inches.....	Purple.....	.35	3.50
Aster, Alpina (Everlasting).....	May-June.....	1 1/2 inches.....	Blue.....	.35	3.50
Aster, Hybridum (Everlasting).....	Aug.-Oct.....	36-48 inches.....	Mixed.....	.35	3.50
Aster, Beauty of Callwall (Everlasting).....					
Aug.-Oct.....	36 inches.....	Purple.....	.40	4.25	
Aster, Rain of Blood (Everlasting).....					
Aug.-Oct.....	36 inches.....	Red.....	.40	4.00	
Aster, Climax (Everlasting).....	Aug.-Oct.....	36 inches.....	Light Blue.....	.40	4.00
Aster, Lill Fardell (Everlasting).....	Aug.-Oct.....	36 inches.....	Carmine.....	.40	4.00
Avens, Geum, Atrosanguineum.....	June-Sept.....	1 1/2 feet.....	Scarlet.....	.40	4.00
Baby's Breath Gypsophila, Single	April-May.....	2 feet.....	White.....	.35	3.50
Baby's Breath Gypsophila, Double	April-May.....	1 1/2 feet.....	White.....	.45	4.75
Bleeding Heart, Spectabilis.....	Summer.....	2 feet.....	Rose.....	.60	6.50
Campanula (Canterbury Bell)					
Carpatica	July-Aug.....	12 inches.....	White, Blue, Pink.....	.35	3.50
Campanula (Canterbury Bell)					
Cup and Saucer.....	June-July.....	30 inches.....	All colors.....	.35	3.50
Campanula (Canterbury Bell)					
Pyramidalis Compacta	July-Aug.....	30 inches.....	Blue.....	.35	3.50
Campanula (Canterbury Bell)					
Percicifolia, The Fee.....	July-Aug.....	30 inches.....	Blue.....	.35	3.50
Chrysanthemum (Shasta Daisy)					
Alaska	June-Nov.....	24 inches.....	White.....	.35	3.50
Chrysanthemum (Shasta Daisy)					
Mrs. Lothar Bell	June-Nov.....	24 inches.....	White.....	.35	3.50
Chrysanthemum (Shasta Daisy)					
Common Early Flowering.....	May-June.....	24 inches.....	White.....	.35	3.50
Coreopsis, Grandiflora.....	May-Oct.....	24 inches.....	Yellow.....	.35	3.50
Delphinium (Larkspur)					
Formosum	June-Nov.....	36 inches.....	Blue.....	.35	3.50
Delphinium (Larkspur)					
Hybridum	June-Nov.....	60 inches.....	Blue.....	.35	3.50
Delphinium (Larkspur)					
Belladonna	June-Nov.....	60 inches.....	Light Blue.....	.35	3.50
Delphinium (Larkspur)					
Chinensis	June-Nov.....	30 inches.....	White or Blue.....	.35	3.50
Delphinium (Larkspur)					
Dwarf	June-Nov.....	12 inches.....	Blue.....	.35	3.50
Dianthus (Pinks), Grass or Scotch Pink	May-July.....	12 inches.....	Mixed.....	.35	3.50
Dianthus (Pinks), Caesius.....	June-July.....	8 inches.....	Pink.....	.35	3.50
Dianthus (Pinks), Sub Acaulis.....	June-July.....	6 inches.....	Rose.....	.35	3.50
Fox Glove, Digitalis, Gloxinea-flora					
June-Aug.....	5 feet.....	Mixed.....	.35	3.50	
Garillardi (Blanket Flower).....	Spring & Summer.....	2 feet.....	Scarlet.....	.35	3.50
Golden Glow, Rudbehias.....	Aug.-Oct.....	6 feet.....	Yellow.....	.35	3.50
Hollyhocks, double	July-Oct.....	4 feet.....	Scarlet.....	.35	3.50
Hollyhocks, double	July-Oct.....	4 feet.....	White.....	.35	3.50
Hollyhocks, double	July-Oct.....	4 feet.....	Yellow.....	.35	3.50
Iberis, Little Gem.....	April-Aug.....	1 foot.....	White.....	.35	3.50
Iris, English	June.....	24 inches.....	Mixed.....	.35	3.50
Iris, Liberty	May-June.....	30 inches.....	Yellow, White Edged.....	.35	3.50
Iris, Siberian	June.....	24 inches.....	Blue.....	.35	3.50
Iris, Spanish	June.....	24 inches.....	Mixed.....	.80	
Lily of the Valley, Pips.....	May-June.....	3/4 foot.....	White..... doz.	.35	3.50
Phlox	Fall.....	2 1/2 feet.....	White, Red, Pink.....	.35	3.50
Pyrenthrum, Hybridum	Fall.....	2 feet.....	Mixed.....	.35	3.50
Sweet William, Dianthus, Crimson.....	June-July.....	24 inches.....	4 dif. colors.....	.35	3.50
Sweet William, Dianthus, White.....	June-July.....	24 inches.....	4 dif. colors.....	.35	3.50
Sweet William, Dianthus, Salmon.....	June-July.....	24 inches.....	4 dif. colors.....	.35	3.50
Sweet William, Dianthus, Scarlet.....	June-July.....	24 inches.....	4 dif. colors.....	.35	3.50
Veronica, Repens.....	May.....	3/4 foot.....	White.....	.35	3.50
Violets	Spring.....	6 inches.....	Blue.....	.30	3.00

Plants and Roots

No plants or roots sent C. O. D.

The importance of a good foundation is readily acknowledged and this fact holds as good in the vegetable kingdom as under any other conditions, therefore it is of the greatest importance to select and plant only roots and plants that have been grown from a good ancestry. It is likewise true that one cannot always tell these things by merely looking at the plants or roots, therefore it is usually best to make your purchases from a house that has won for itself a

reputation by square dealing and by furnishing good, reliable stock. The selection of our seed is always given the utmost care, and then our plants and roots are attended to in such a way that insures the best growth and development.

We are able to supply the transplanted plants in most varieties, and would recommend these especially where there are only a few wanted. We would also recommend the 2-year-old roots in preference to 1-year-old.

PLANTS—FLOWERING—Perennials and Annuals

Prices			Prices		
Variety	Postpaid	Postpaid	Variety	Postpaid	Postpaid
	Doz.	100		Doz.	100
Alyssum	\$0.30	\$1.60	Marigold	\$0.35	\$1.80
Asters .....	.30	1.50	Mignonette .....	.30	1.60
Daisies .....	.35	1.80	Pansies .....	.60-80	2.50-4.50
Carnations .....	.35	1.80	Petunia .....	.35	1.80
Cosmos .....	.35	1.80	Salvia .....	.35	1.80
Dahlias .....	.35	1.80	Snapdragons .....	.30	1.60
Dusty Miller .....	.30	1.60	Stocks .....	.35	1.80
Geranium, 3-inch pots .....	.25 each	2.50 doz.	Verbenas .....	.30	1.60
Heliotropes .....	.35	1.80	Wallflowers .....	.35	1.80
Lobelia .....	.35	1.80	Zinnias .....	.35	1.80

PLANTS—VEGETABLES

Variety	Postpaid			Not Postpaid	
	Doz.	50	100	500	1000
Brussels Sprouts	\$0.20	\$0.50	\$0.75		
CABBAGE—					
Early Jersey Wakefield, transplanted .....	.25	.75	1.00		
Early Jersey Wakefield, not transplanted .....	.20	.50	.75	2.75	5.00
Danish Ball Head, not transplanted .....	.20	.50	.75	2.75	5.00
Red, not transplanted .....	.20	.50	.75		
Copenhagen Market, not transplanted .....	.25	.75	1.00	3.75	7.00
CAULIFLOWER—					
Snowball, transplanted .....	.30	.90	1.25		
Snowball, not transplanted .....	.25	.75	1.00	3.75	7.00
CELERY—					
White Plume, transplanted .....	.25	.75	1.00		
White Plume, not transplanted .....	.20	.50	.75	2.75	5.00
Golden Self-Blanching, transplanted .....	.25	.75	1.00		
Golden Self-Blanching, not transplanted .....	.20	.50	.75	2.75	5.00
Celeriac .....	.25	.75	1.00		
Egg Plant .....	.25	.75	1.00		7.00
Parsley .....	.25	.75	1.00		
PEPPERS—					
Chinese Giant .....	.30	.75	1.00		7.00
Ruly King, transplanted .....	.30	.75	1.00		7.00
Bull Nose, transplanted .....	.30	.75	1.00		7.00
Cayenne, transplanted .....	.30	.75	1.00		7.00
Cherry, transplanted .....	.30	.75	1.00		7.00
Sage, transplanted .....	.30	.85	1.25		

TOMATOES—

	Postpaid			Not Postpaid	
	Doz.	50	100	500	1000
Earlana, transplanted	\$0.30	\$0.75	\$1.25	\$4.25	\$8.00
Earlana, not transplanted .....	.25	.65	1.00	2.25	4.00
Dwarf Champions, transplanted .....	.30	.75	1.25	4.25	8.00
Dwarf Champion, not transplanted .....	.25	.65	1.00	2.25	4.00
Husk or Ground Cherry, transplanted .....	.30	.75	1.25		

Roots

Variety	Postpaid			Not Postpaid		
	Doz	50	100	500	1000	5000
ASPARAGUS—						
Palmetto, 1 year old	\$0.25	\$0.60	\$1.00	\$3.25	\$6.00	\$27.50
Palmetto, 2 years old .....	.35	.85	1.50	5.25	10.00	
Palmetto, 3 years old .....	.50	1.50	2.25	7.75	15.00	
Hop .....	.85	3.00	5.00			
Horseradish .....	.35	1.00	1.50	5.25	10.00	
Mint .....	.75	2.50	4.00			

Postpaid

	Each.	Doz.	50
Chives, small bunch, postpaid	\$0.15	\$1.25	
Rhubarb, 1 year old .....	.15	1.00	3.50
Rhubarb, 2 years old .....	.20	1.50	5.00

Not Postpaid

	100	500
Rhubarb, 1 year old	5.00	15.00
Rhubarb, 2 years old	6.00	20.00

STRAWBERRIES

AROMA—Among the best of the late ripening varieties. In comparison with the Gandy, it will be found that it commences to ripen a little earlier and will continue to the end of Gandy's season and is similar to it in size and productiveness. Quality the best of any, comes nearer being the true strawberry flavor than all others. Its shipping qualities are of the best.

CLARK'S SEEDLING—This variety originated in our state, a seedling of the old popular Wilson variety. Like the Hood River, a near relation, it is unsurpassed as a shipping variety and in some sections very prolific.

GANDY—A variety that has not yet today found its equal as a truly reliable and all-round late producing berry. The plant is a rampant grower, having strong fruit stems, holding a heavy weight of the fruit erect; slow in forming, and maturing, therefore coming into the market when the early and mid-season varieties are about done fruiting.

GLEN MARY—A bright, handsome, prolific, standard sort, grown the country over and perfectly reliable. Some large growers claim for this the par excellence in strawberries.

GOLD DOLLAR—An extra early variety originating in California. It is very productive and great promises are made for its future place in the strawberry world.

HOOD RIVER—The leading standard shipping variety. The berry that has made the town of its name famous, and its growers financially rich. Dark red color, uniform size, good quality, but not heavy in yield. A specialty berry

for the grower whose market is somewhat distant.

MAGOON—Of first quality, great productiveness, attractive shape and color; good for canning.

MARSHALL—Produces remarkably large, beautiful fruit, resembling the far-famed Glen Mary, that we are pleased to add it to our list and put it in the Magoon and Senator Dunlap class, which is sufficient to guarantee its favor.

OREGON—This variety is of late introduction and somewhat resembles the old Wilson type of a strawberry. With a fadeless, dark red exterior; the deep red color is extended clear to the center of the fruit. Exceptionally fine for canning and attractive in the box. Any variety that we offer will fertilize it except Gandy or Aroma.

SENATOR DUNLAP—Its color is a rich dark red, with glossy finish. It has become a very popular variety, perhaps on account of its uniformity.

WARFIELD—The most popular pistillate variety grown. It is a large, beautiful, cone-shaped berry with a fadeless, dark red exterior; the deep red color is extended clear to the center of the fruit. Exceptionally fine for canning and attractive in the box. Any variety that we offer will fertilize it except Gandy or Aroma.

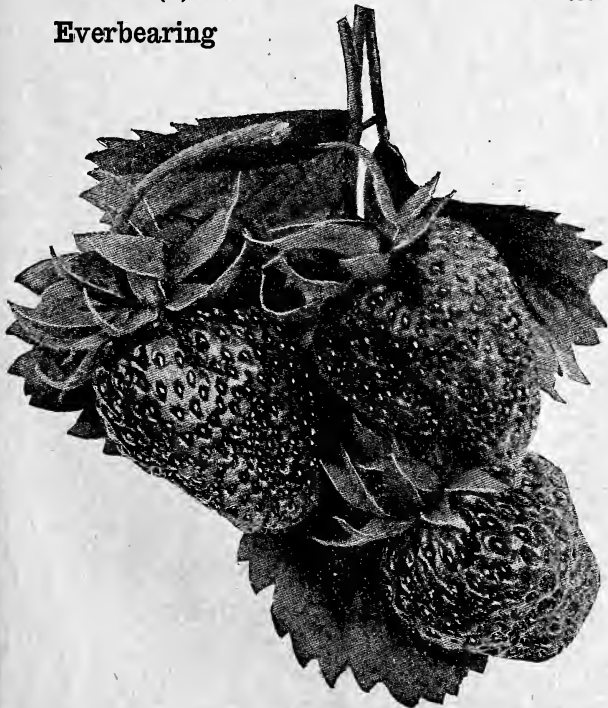
WM. BELT—Nothing better for quality, shape and attractiveness. A reliable and trustworthy variety; ripens evenly; prolific and will meet the expectations of the most fastidious.

Postpaid

By Express—Not Postpaid

	Doz.	25	50	100	200	300	400	500	1000
AROMA (S)	\$0.35	\$0.50	\$0.90	\$1.50	\$2.25	\$3.00	\$3.75	\$4.25	\$8.00
CLARKS SEEDLING (S)	.35	.50	.90	1.50	2.25	3.00	3.75	4.25	8.00
GANDY (S)	.35	.50	.90	1.50	2.25	3.00	3.75	4.25	8.00
GLEN MARY (S)	.35	.60	1.15	1.75	2.50	3.25	4.25	5.25	10.00
GOLD DOLLAR (S)	.35	.60	1.15	1.75	2.50	3.25	4.25	5.25	10.00
HOOD RIVER (S)	.35	.50	.90	1.50	2.25	3.00	3.75	4.25	8.00
MAGOON (S)	.35	.60	1.15	1.75	2.50	3.25	4.25	5.25	10.00
MARSHALL (S)	.35	.60	1.15	1.75	2.50	3.25	4.25	5.25	10.00
OREGON	.35	.60	1.15	1.75	2.50	3.25	4.25	5.25	10.00
SENATOR DUNLAP (S)	.35	.60	1.15	1.75	2.50	3.25	4.25	5.25	10.00
WARFIELD (P)	.35	.50	.90	1.50	2.25	3.00	3.75	4.25	8.00
WM. BELT (S)	.35	.50	.90	1.50	2.25	3.00	3.75	4.25	8.00

Everbearing



Progressive

This wonderful ever-bearer has become so well known and has proven such a favorite that it is unnecessary for us to give a long description. As a home garden berry the Progressive fills the bill. The Progressive is a persistent bearer from the time plants are set in the spring until hard freezing, and again is the first to bloom in the following spring, and yields a good crop same time as other varieties. The quality of this berry is most excellent.

Superb

The fruit of Superb is large, glossy, firm and of fine quality, being a strictly fancy variety. It is not so productive and requires more care and attention than the Progressive, but makes up for this by being larger in size, presenting a better appearance, and having a finer flavor. In some sections of the Northern states, Superb gives better results than the Progressive.

Price of both varieties:

Doz., 50c; 25, \$1.15; 50, \$1.90; 100, \$3.25; 200, \$5.50; 300, \$7.50; 400, \$9.00; 500, \$10.50; 1000, \$20.00.

Quantities up to and including 100 postpaid; larger quantities at purchaser's expense.

Potatoes

Potatoes can be grown in any soil, provided it is well drained, but, if grown on sandy, rich soil, they will be of better quality than if planted on clay soils. Sod land is most excellent for this crop. It is best to put the manure on one year before the potatoes are to be planted, and in no case raw stable manure should be used, as it is liable to produce scab. In cutting potatoes for planting, do not cut the pieces too small and be sure to have 1 to 3 eyes on each piece planted. The constant use of very small tubers should be avoided, or they are likely to run out. The sets should be planted from 3 to 4 inches deep, according to the time of planting, in rows 3 feet apart and 16 to 18 inches in the rows.

PRICES—Owing to the great uncertainty regarding values we are unable to make definite prices at present, but quote approximately as follows, purchaser paying all carrying charges: Less than 25 lbs., 5c; 25 lbs., \$1.00; 50 lbs., \$1.75; 100 lbs., \$3.00. If you are needing a quantity we prefer that you write for prices as these prices are not guaranteed. Unless otherwise advised we will send full value at prices prevailing at time of shipment for money received.

Early

OHIO—A leading early sort, earlier than the Early Rose, but not so productive. Round, short, and thick tubers, smooth and solid; cooks dry and mealy and matures very early.

ROSE—This variety has been a great favorite for many years and many growers still claim that it has never been excelled in quality and productiveness. Potatoes are long in shape, good size and light pink in color at the bud end. They cook mealy and are of the finest flavor.

SIX WEEKS—This is recognized as being one of the very earliest varieties grown, and in addition it is also one of the best yielders of the early varieties. Besides these two very important advantages, it possesses a third, namely: Its quality; and quality is the great pivotal point at which we are aiming in the production of all our seeds, plants and roots.

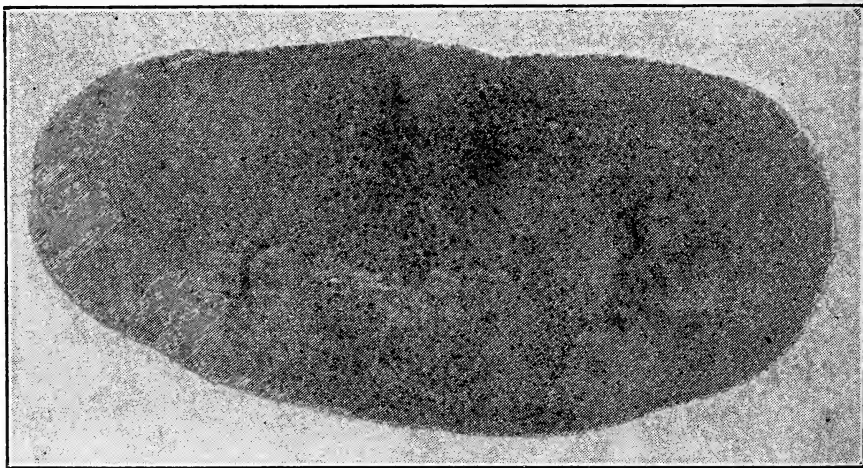
Medium

IRISH COBBLER—The tubers are round, somewhat flattened with rather deep eyes and are medium to large in size. The skin is smooth, finely netted, and white in color. Flesh white of fine quality and flavor.

This is a very vigorous grower, far less liable to knot and crack than many varieties and is nearly immune to the internal brown spot that affects some other sorts. It is a splendid shipper.

Late

BURBANK—Continues in good demand and is more largely used than any other. It is of good size, of fine form and an excellent yielder. The flesh is white, very mealy and of fine flavor and quality.



Netted Gem

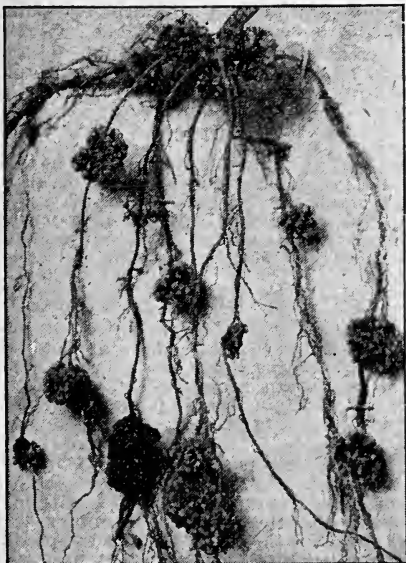
NETTED GEM—The hardiest, most vigorous in growth, most productive, and the best in table quality of all potatoes. It has proved to be unequalled for main crop. The vines are strong, with deep green foliage. In form the tubers are medium long. The eyes are small and there is very little waste in paring. The

skin is thin and very smooth with the exception of very small depressions which give it the appearance of being netted and from which it derives its name. The flesh is fine grained and cooks up mealy white. It is very free from scale and one of the very best keepers on the market.

Examine our special assortments on page 1.

Rydes Milk Mash is the best for young chicks.

SEED INOCULATION



**Nodules or Nitrogen Sacks
Produced with Inoculation.**

We supply these cultures to our customers for the reason that they produce the best results of any on the market and are sold at reasonable prices. When you buy from us you save fully 50% on the cost of your inoculation and get the best.

WHAT INOCULATION WILL DO

CROPS BENEFITTED—Peas, Sweet Peas, Beans, Alfalfa, Clovers and Vetches.

HOW IT ACTS—When the seeds sprout the bacteria enters the roots and makes large supplies of nitrates, greatly benefitting the growing and following crops.

NODULE-BACTER

HOW USED—Fill the bottle three-quarters full of water shake thoroughly to break up the jelly, and apply contents to the seed by mixing until all the seed becomes moistened. Allow the seed to dry and then plant in the usual manner. Different inoculation is prepared for the following groups: (You will notice that we carry four different inoculations, one for each group. Please order by number.)

1 Alfalfa	2 All other Clovers	3 Field Peas Vetches	4 Garden Peas, Garden Beans, Sweet Peas
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Acre package, \$1.00, postpaid, \$1.10; 5-acre package, \$4.00, postpaid, \$4.25; small bottles for the garden, 25c, postpaid, 30c.

FARMOGERM

Acre package, \$2.00, postpaid, \$2.10; 5-acre package, \$8.00, postpaid, \$8.25; small bottles for the garden, 50c, postpaid, 55c.

It is not advisable to use inoculation if carried in stock more than one season. We return all our unsold NODULE-BACTER INOCULATION each year, hence each year's supply is fresh.

The manufacturers of Farmogerm state that they are the only people that are producing an inoculation that will keep from year to year, and further state that Farmogerm will keep for five years.

Alfalfa



ALFALFA.

Owing to the great importance of alfalfa, and the belief that this crop is not used as extensively as it should be and with the hope that the following may be useful, especially to those who have not yet engaged in growing it, we submit the following facts and figures as we have gathered them from different sources.

While alfalfa is one of the oldest known agricultural plants, it is apparently just beginning to be recognized and its true value appreciated in the western hemisphere.

Alfalfa is successfully grown in every state in the Union and in most of the provinces of Canada. It is grown below sea level in the valleys of California and on altitudes of more than eight thousand feet in the mountains of Colorado. It is quite safe to assert that alfalfa can be grown successfully wherever small grains are now being grown in the northwest.

History

The alfalfa plant is designated by many different terms—alfalfa and lucern (the latter being the French name) are the most common. It has been cultivated as a forage crop for more than twenty centuries. It is believed to be a native of the central district of western Asia and is still found in an apparently wild condition in the regions of the south Caucasus.

It was introduced into Greece at the time of the Persian war, about 470 B. C. The Romans carried it from Greece to Italy. From Italy it was introduced into Spain and the south of France. It was carried from Spain to Mexico at the time of the Spanish invasion, and thence to the west coast of South America. It was brought from Chili to California in 1854, and from there it spread over the arid regions of the Pacific coast where it is now cultivated almost to the exclusion of other forage plants. It was introduced into the state of New York as early as 1820, but is not yet grown extensively in the eastern states.

Uses and Value of Alfalfa

Alfalfa, either green or in hay, as feed for all kinds of farm animals, is the most highly nutritious and palatable that can be raised in the northwest.

Dairy Cows

Alfalfa is particularly valuable as a feed for dairy cows. When properly cured it has more nearly the effect of good June pasture than any other feed. The dairyman feeding bran with wild hay, timothy, millet or corn would find it profitable to omit one-half of his bran and substitute an equal number of pounds of alfalfa hay.

Beef Cattle

For fattening beef cattle, alfalfa certainly has no equal as a roughage. It is generally figured that it will require 1000 pounds of grain to produce 100 pounds of beef with mature cattle and the ordinary roughages such as prairie hay, corn fodder, or millet. When good alfalfa hay is fed with corn, the amount of grain required will be reduced nearly one-half.

Hogs

It is remarked that a field of alfalfa is a hog's idea of heaven, and the way they respond in gain and thriftiness while pasturing on alfalfa, indicates that this must be practically true. The Kansas Experiment Station has shown that an acre of alfalfa will produce 776 pounds of pork during a season.

The last cutting of alfalfa should be saved for the hogs, as it is usually cut greener and contains a larger percentage of leaves.

Horses

When beginning to feed alfalfa to horses care should be taken that they are not over fed, as it is so much richer than other hays. If the amount fed is limited to proper proportions and the grain ration reduced to about one-half no injurious effects will be noticed.

Sheep

The value of alfalfa for sheep is attested by the fact that the alfalfa regions of Colorado are full of sheep feeding quarters, where large flocks from the mountain ranges are fattened. In the vicinity of Yakima large flocks of sheep are turned into the alfalfa fields after the last cutting.

Poultry

Alfalfa is a great poultry feed, either eaten green from the fields in the summer time, or chopped and fed in the winter. Chopped hay or meal mixed with a small amount of grain, put into a barrel or tub, and hot water poured over it and allowed to steam for a few hours, will be eaten as greedily as green feed in the summer time and will have a good effect in maintaining the egg production.

Bees

As a bee plant, alfalfa is almost the equal of sweet clover. This is a fact that is not fully appreciated, but the heaviest yields of honey per stand are secured in alfalfa regions. The honey is of excellent quality as is evidenced by its standing in the markets.

Pasture

While the most important use of alfalfa is in producing hay, it nevertheless has a place in the pasture mixture. Owing to the fact that it is liable to produce bloat, it is unsafe to pasture cattle on an exclusive alfalfa pasture; but this difficulty apparently disappears when the alfalfa is sown with other grasses. Alfalfa roots so much more deeply than the grasses, that it will grow among them and be very little affected by their crowding.

Growing

As alfalfa roots very deep it is advisable to have a soil into which the roots may penetrate and which also contains moisture. It will produce as much on a thin, dry soil as any other crop, but when there is a chance for it to reach permanent moisture through ten to thirty feet of good soil, it will, once established, go on producing crops every thirty to forty days during the growing season with very little regard to climatic conditions. The roots of alfalfa penetrate dry soils or dry gravel beds very slowly and often the poorer portions of a field will be found to be underlaid by such material. On such soils thin seeding will succeed much better than thick.

Preparation of the Seed Bed

The preparation of a seed bed is essential mainly as a means of storing moisture. When the rainfall is under twenty inches, the land

should be plowed ten inches deep and summer-fallowed or, if the soil would drift from such treatment, a thin planting of corn may be grown on the land to prevent drifting. If it is not necessary to consider storing moisture it is preferable to precede the alfalfa by a cultivated crop, such as corn, potatoes, or beans. If possible the land should be manured.

Alfalfa requires a firm seed bed. For this reason it is not advisable to plow the land immediately before seeding, as it is almost impossible to get the soil sufficiently firm again.

In western Kansas, herds of cattle are rounded up and driven over the fields to pack the soil after plowing it. If, in order to get the land leveled up and in shape to seed, it is necessary to plow just before seeding, this plowing should be as shallow as possible, and packer, roller, and harrow used to make it solid again.

Alfalfa will not grow where water stands and freezes over it in winter or gets stagnant in summer.

Treatment After Seeding

If from any cause the ground should become crusted after seeding so that the alfalfa could not come through, it is advisable to use a light roller to break the crust. It sometimes occurs that when alfalfa seed is sown there is sufficient moisture in the ground to cause germination, but owing to hot winds and sun this moisture becomes absorbed, and the young sprouts are unable to continue their growth for lack of moisture, hence a very poor stand or entire failure is the result. In such cases do not condemn the seed.

When to Mow Alfalfa

Generally a fair crop of weeds may be expected to start along with the alfalfa. As soon as the weeds are seen to be getting ahead of the alfalfa and are four to six inches high the mower should be run over it. The mower should not be run too close to the ground. The alfalfa will usually branch from very close to or just under the ground after the first cutting, but it is not advisable to cut too close unless it is necessary to do so to get the weeds.

The mower must be used every two to four weeks during the first summer. This is one of the imperatives of success. If alfalfa is not mowed often, it grows tall and spindling, often tries to bloom and produce seed, turns yellow, and dies. Mowing prevents this, and the strength of the plant is used in root growth, instead of in trying to bloom and produce seed.

Don't Cut or Pasture in Late Fall

In the Northwest, one of the most common mistakes made after a stand is secured, is to leave the field bare by late cutting or pasturing. Alfalfa must have a good heavy blanket in the winter. There should be a growth of eight or ten inches left for protection. It should not be cut later than twenty or thirty days before the date of the first killing frost.

Inoculating Soil

There is no doubt but that a share of the difficulty in starting alfalfa is due to the absence from the soil of a sufficient number of virile nodule-forming bacteria peculiar to the alfalfa plant. These nodule-forming bacteria are essential to the alfalfa, and in most instances, unless the land has grown alfalfa, artificial inoculation should be resorted to.

Methods of Inoculation

There are two sources of securing inoculating material. The most convenient method is by using the pure cultures. When properly handled, this method is satisfactory and good results are obtained.

A second method is to secure soil from an old alfalfa field that is known to be inoculated, or from where sweet clover grows. About 300 pounds of soil per acre if carefully distributed—either drilled in or sown broadcast and harrowed in is sufficient. The dirt must be dried for drilling, but it must not be exposed to the sun, or the bacteria will be killed.

Seed

It has been so often and so clearly demonstrated that it is not wise to plant any but the best seed obtainable, regardless of a little additional cost, that it is surprising to see so many farmers seeking a low-priced seed, in order to save one or two dollars per 100 pounds. We would suggest that if it is necessary, sow less acreage, but secure the best seed. There is too much work and profit involved to take any chance with inferior seed.

Making Alfalfa Hay

It has been found by analysis that the feeding value of the hay is greatest at the time when about the first one-tenth of the blooms have appeared. The hay becomes woody quite rapidly as it gets older and the digestibility of it naturally decreases.

At the Colorado Experiment Station it was found that the cutting affected the protein as follows:

Stage of Maturity	Protein, per cent
Coming in bloom, about one-tenth.....	18.5
Half in bloom	14.6
In full bloom	12.9

It is noticed that when alfalfa is cut early, the next crop starts more readily than if cut later.

Curing Alfalfa Hay

The leaves of alfalfa contain nearly four times as much protein as the stems, hence every effort should be made to cure the alfalfa in such a way as to save all the leaves.

If the weather is very unfavorable and continues wet so that the hay can not be dried, it may be stacked wet, if the precaution is taken to put fifteen to twenty pounds of salt or air-slacked lime per ton in the stack as it is put up. In fact, it is probable that the hay will be damaged much less by heating in the stack than by molding in the shock or windrow. When stacked wet or green, the hay may turn a dark brown and will often have an odor almost as strong as plug tobacco, but it is relished by stock and apparently has lost very little of its feeding value.

Alfalfa a Soil Renovator

To those not familiar with it, the extent of the alfalfa root system is almost unbelievable. Certainly no one will doubt the beneficial effect of the decaying of these large roots in the soil. As the larger part of the alfalfa root system is below the feeding range of ordinary plants, the surface soil is resting and really gaining in fertility during the time it is in alfalfa. Alfalfa is a great silent subsoiler, equal in efficiency to tractors or dynamite.

Alfalfa Enemies

Alfalfa is subject to leaf spot or what is commonly called rust. This does not occur frequently, but when it does, it should receive prompt attention. The first warning is the appearance of small black spots on the leaves. Later these leaves turn yellow and the patches in the field where this starts become larger, and the growth is greatly retarded. Bloom seldom appears after rust has gained any headway. The remedy is very simple and easily applied—mow the alfalfa as soon as possible after the rust appears, and remove the cutting.

There are other alfalfa diseases, but they

are infrequent and of little consequence. Occasionally, young alfalfa is damaged by the blister beetle, and grasshoppers are apt to cause some damage. The blister beetle and the grasshopper can be destroyed by spraying with Paris green.

Squirrels and pocket gophers often damage alfalfa by throwing up mounds of dirt which interfere with harvesting. These animals can be poisoned.

Summary

1. Alfalfa is being grown successfully in every part of the northwest, but is not fully appreciated.

2. Farmers are rapidly coming to realize that livestock must be raised on every farm, and that alfalfa is the surest and best feed to be raised.

3. Alfalfa growers agree on essentials. Precede alfalfa by a cultivated crop, potatoes best. Plow deep the year previous to conserve moisture. Fall plow and manure. Spring plowing should be very shallow, and packer used to firm the soil.

4. Cut the alfalfa for hay when one-tenth in bloom. Never cut or pasture so late that there is not a good growth for winter protection. Save the leaves as they are richer than bran.

5. Alfalfa excels every other crop, in yield, in feeding value, as a drouth resister, as a soil enricher, is not as difficult to grow as clover and gives double the yield. After you have failed as often with alfalfa as you have with wheat, try alfalfa again. Do not expect to know all about this new-old crop at once. It is necessary to grow into growing it, but make a beginning and Grow Alfalfa.

Alfalfa or Lucerne

GRIMM ALFALFA—While what it known as the common alfalfa is the most popular and almost exclusively used, still there has been for a number of years other named varieties each claiming to be superior to the common alfalfa. The most widely advertised of these varieties is what is known as Grimm alfalfa. The originator of this variety has the following to say concerning it: "The Grimm alfalfa is much hardier than the ordinary kinds, and there is even strong reason to believe that it is the hardiest form of the cultivated plant. It not only endures extremely low temperatures with or without snow and other adverse conditions, but it can be cut with greater safety late in the fall and will bear more abuse in the way of pasturage than any other plant that has been compared with it until this time. There is some disagreement among investigators as to how Grimm alfalfa obtained its hardness, but there is no difference of opinion that it is hardy. Grimm alfalfa requires less seed per acre because of its large stooling habit, and because the plants are more persistent in establishing themselves. Because of its branch root system it will grow over a hard plain soil, and is adapted to wetter soil than the common alfalfa.

SEED BED—Deep plowing. Firm seed bed. Thorough pulverizing.

Common Alfalfa, lb., 35c, postpaid.

Grimm Alfalfa, lb., 55c, postpaid.

Write for prices, stating quantity wanted.

Clovers

Great care should be exercised in purchasing grass and clover seeds. This is even more important than with other seeds, for, on account of being perennials, and the land not being cultivated, the farmer has not an opportunity to cultivate and thus destroy any weed seeds that might be sown with grasses and clovers.

Owing to the market changes we cannot quote prices. When ready to buy write us for prices, stating quantity wanted, or if you send money, we will ship seed to cover amount received.

ALSIKE, or SWEDISH (Trifolium Hybrum)

—A perfect hardy variety which is rapidly growing in popular favor. It yields large crops of excellent hay and under favorable conditions may be cut several times during the season. It is also valuable for bees. It is well calculated to resist both drouth and excessive moisture. The hay of this variety is greatly preferred by some to that of Red Clover, for the reason that it is generally finer, brighter and not so dusty, making it better for horses. Lb., 45c, postpaid. Write for prices, stating amount wanted.



Alsike Clover

finer, brighter and not so dusty, making it better for horses. Lb., 45c, postpaid. Write for prices, stating amount wanted.

SWEET CLOVER

(From the writings of Prof. P. G. Holden and others.)

It has been commonly regarded as a weed and a great nuisance, but in spite of the prejudice against it and misunderstanding regarding its agricultural value, many experiments conducted within comparatively recent years to ascertain its adaptability, feeding value and effect upon the soil have pretty definitely determined its importance as a farm crop.

A few years ago, the only steadfast friend of sweet clover was the bee man whose neighbors in many cases accused him of maliciously scattering the seed of a despised weed. This opposition, however, is gradually changing to a more friendly attitude and today we observe many articles published in the agricultural press telling of the great worth of sweet clover as a soil enriching plant and as a feed for stock. Those who have grown it as a hay crop and for pasture praise it most highly. As a result of these investigations and tests there seems to have been suddenly created a general interest all over the country in its favor. These investigations as well prove the fact that its chief advantages compare remarkably well with those of alfalfa. In some particulars it is superior to red clover, especially in its beneficial effects upon the soil, its ability to grow on many types of soil, and its high protein content.

It is commonly remarked by stockmen and farmers that stock will not eat it. This, no doubt, is true in many cases, as it is true of many other feeds to which stock are not accustomed—cattle and horses refuse to eat corn; cows most generally refuse to eat silage at first. Sweet clover affords early spring pasture.

This plant is a legume, and has in a general way the same characteristics and requirements as red clover, alfalfa and other legumes. It is closely related to alfalfa, and in the early stages of growth the plants resemble each other closely. The foliage has a strong, bitter taste, however, totally unlike alfalfa.

The same species of bacteria grow on both alfalfa and sweet clover roots and soil from a sweet clover field can be used to inoculate alfalfa, and vice versa. Sweet clover is a biennial, completing its growth the second year and then dying. Under favorable condi-

CLOVER—Continued

tions it may reach a growth of from five to twelve feet the second year.

When all other foliage has been withered and killed by the scorching sun; when the pernicious chinch has devoured the last morsel of the silage crop, sweet clover will come to your assistance, making acceptable ensilage, and tide over a most critical period.

Possesses Many Excellent Qualities

Sweet clover has some qualities that excel those of most other legumes. The first great advantage it possesses is its ability to thrive on any type of soil and under almost any climatic condition. In the South, where red clover fails, sweet clover is perfectly at home. At the same time it is able to withstand the rigors of a North Dakota winter. It will grow on a very sandy soil or on the heaviest clay; on stony hillsides and loose loams; where rainfall is heaviest and where it is too light to produce a crop of red clover and timothy. It will grow on raw clay ruts and gullies where no other plant can get a foothold, and grow luxuriantly. It will stand more alkali or more acid in the soil than clover or alfalfa, and is less dependent on good drainage than red clover, equalling alsike clover in this respect.

Does Well on Rough, Hilly Land

On very poor soils, however, it will thrive only where an abundance of limestone is present. Under such conditions its vigor and wonderful rooting system enable it to secure more plant food from the soil than almost any other crop. Thus it proves most valuable on rough limestone hills. On rough, hilly lands other than those of limestone origin lime must be added before the crop will prove of the highest value, but even where this is necessary no crop will equal sweet clover in helping to get the land into condition for other crops.

General Remarks

With a favorable season and good stand it can be pastured without injury to plant in about 10 weeks. First season can pasture or cut crop of hay; second season pasture, hay or seed. Most valuable as continuous pasture, when it will reseed itself without thought or care of the grower.

It will never bloat stock, horses, cattle, sheep or hogs, turned out at any time, even in rain or dew. A good stand will pasture 20 head of hogs to the acre. Ring the hogs. The bitter taste of sweet clover is caused by the presence of cumarin, which prevents the bloating. Sweet clover will thoroughly inoculate the land for alfalfa, as the bacteria of both plants are the same. Sow 12 to 15 pounds per acre, preferably of the white biennial sweet clover.

WHEN TO SOW—The best results are obtained by sowing in early spring as soon as the ground is dry and warm enough to put in condition for a good shallow seed bed. In the South where the rainfall is copious in winter, fall planting will be better.

HOW TO SOW—Preferably in a fine shallow seed-bed on a firm subsoil. If sown before a rain it needs no harrowing. Always cover very lightly, as deep seeding is unsuccessful. Corn stubble, or any ground cropped the preceding year, by discing and harrowing, putting the top two inches of soil in fine condition is suitable for sowing. Always cover seed shallow. Without nurse crop preferred. Previous inoculation unnecessary; it inoculates itself, being better each succeeding year.

Sweet clover does not stool as much as alfalfa. The shoots start from the main stem and on this account the mowing machine should be set as high as possible, so as to leave plenty of small shoots to start the next crop.

It is customary to turn stock on the sweet clover in the early spring when it is young. There being no other green feed they will soon become accustomed to it and like it.

Sweet clover is rich in feeding value. It contains more protein than red clover and equally as much as alfalfa.

Sweet clover will grow on land too wet or on land too dry for alfalfa or red clover.

Sweet clover grows more rapidly than alfalfa when young, produces a good crop the first year, and provides early green pasture.

It will stand more alkali or more acid in the soil than alfalfa or red clover and produce a crop.

It thrives where rainfall is heaviest and where rainfall is too light to produce many other crops.

It needs a firm solid seed bed. The ground should not be loose. Many of its failures on cultivated land have been due to a loose mellow seed bed.

Sweet clover should not be allowed to stand too long, as it becomes woody and loses its leaves. It should be cut when 18 to 20 inches high and before it blossoms, if it is to be for hay.

The foregoing statements and facts refer to the White Blossom Perennial variety.

WHITE BLOSSOM—(*Mellilotus Alba*)—This lives two years and then dies. It is the variety commonly referred to when "sweet clover" is mentioned and is the best for general use.

It is an erect branching biennial plant with woody stems, the first season growing 1½ to 3 feet high and developing a large root, in which is stored food material for the second season's growth. The growth the second season usually reaches a height of 4 to 7 feet. It bears flowers and seed the second season and then the plant dies, so it is readily controlled by cutting before it goes to seed, which will prevent any seed being self sown. Hulled and scarified seed. **Lb., 35c, postpaid.**

YELLOW BLOSSOM—(*Mellilotus Officinalis*)—This variety belongs to the same family as the White Blossom, but it is not so prolific in growth, will not produce so large a tonnage, does not grow quite so tall, but is from ten days to three weeks earlier.

The flowers are yellow instead of white. For bee pasture and fertilizing purposes, we believe it to be equally valuable. This variety is becoming more popular, owing to the very fact that it does not grow so coarse, hence considered by many to be more valuable for hay, likewise for pasture, as it does not run to stems as soon as the white blossom. Hulled and scarified seed. **Lb., 35c, postpaid.**

Write for prices, stating amount wanted.

CRIMSON, OR SCARLET (*Trifolium Incarnatum*)—Highly recommended for pasture and fertilizing purposes. It is a thrifty annual, growing from twenty to thirty inches high, and has a beautiful crimson blossom. It germinates quickly, grows rapidly and stools abundantly. **Lb., 40c, postpaid.** Write for prices, stating amount wanted.

ESPERETTE, OR SAINFOIN (*Onobrychis Sative*)—A deep rooting, perennial legume, extensively cultivated on dry, calcareous soils which are too barren for clover or alfalfa. It is rather difficult to establish, as plants are easily killed when young, but when once rooted, will live from ten to twenty years. **Lb., 35c, postpaid.** Write for prices, stating amount wanted.

RED MAMMOTH—Being a rank grower makes it most valuable for fertilizing purposes. Foliage, flowers and stem much darker than common Red Clover; ripens later than the latter, about the time Timothy Red Top and other grasses ripen, making thereby a much better quality of hay, when mixed with them. **Lb., 45c, postpaid.** Write for prices, stating amount wanted.

CLOVER—Continued

RED MEDIUM (*Trifolium Pratense*)—The standard clover for all purposes, either hay, pasture or for improving and enriching the soil. It is hardy and succeeds well on any good soil. It yields the heaviest crop of any clover except alfalfa, and makes superior hay—especially if mixed with timothy—either for dairy cows or for general use. **Lb., 45c, postpaid.** Write for prices, stating amount wanted.



RED CLOVER.

WHITE DUTCH—(*Trifolium Repens*)—A low, close-growing clover with white blossoms, very fragrant. It does not attain sufficient height to be profitable for hay, but is superior for pasture, either for cattle or sheep, and unsurpassed for the production of honey. It also makes a beautiful lawn when mixed with Blue Grass. Fancy for lawn. **Lb., 85c, postpaid.** Write for prices, stating amount wanted.

GRASSES

BLUE CANADIAN (*Pea Compressa*)—A hardy variety growing on poorest and driest soils. Short (6 to 8 inches), hardy and wiry but high in nutritive value. Decidedly blue in color. Stems flattened. Invaluable for use on steep places or exposed situations. **Lb., 35c, postpaid.** Write for prices, stating quantity wanted.

BLUE, ENGLISH OR MEADOW FESCUE (*Festuca Pratensis*)—A variety growing three to four feet high. Roots, deep, and resists drouth better than most grasses. It succeeds on any ordinary soil; yields a heavy crop of superior hay; one of the best grasses for pasturage. Valuable to mix with other kinds. **Lb., 35c, postpaid.** Write for prices, stating quantity wanted.

BLUE KENTUCKY—

This makes the best, sweetest and most nutritious pasturage for all kinds of stock. This grass is the first to start up in the spring and remains green until snow flies in the fall. It is very hardy and is uninjured by cold or dry weather, hot sun or tramping of hoofs. The roots are so thick and stout as to form a tough sod. Blue grass requires about two years to get well started and for that reason it is often sown in mixture with other grasses. It will do well on almost any land. Sometimes called "June Grass." **Lb., 45c, postpaid.** Write for prices, stating quantity wanted.

KENTUCKY
BLUE GRASS.

BROMUS INERMIS (Awnless Brome Grass)—Drouth defying, frost resisting. It adapts itself to almost every condition of soil and climate and to any use to which grass may be put, equalling in quality and rivaling in yield almost any other grass. The roots push through the soil and form fresh plants on every side. It starts from two to three weeks earlier in the spring than native prairie grass and it keeps green in the autumn longer than any of the useful grasses grown in the West. No amount of cold seems to be able to kill it. It bears up well under hot summer suns. It is an abundant producer of leaves and is much relished as pasture and hay. **Lb., 40c, postpaid.** Write for prices, stating amount wanted.



ORCHARD GRASS.



ORCHARD—It stands the drouth, grows well in the shade, does well in wet or poor ground. This grass furnishes excellent pasturage three weeks before any other, and after close grazing ten days' rest is sufficient for another growth. Cows fed on this will produce more and richer milk than on blue grass. It makes a very heavy sod and when well set remains for many years. It is especially adapted for winter grazing, as it remains green all season. **Lb., 50c, postpaid.** Write for prices, stating quantity wanted.

RED TOP (*Agrostis Vulgaris*)—A valuable grass for moist, rich soils where it thrives very luxuriantly. It is a good variety to sow with Timothy and Clover for meadow or pasture and is more permanent than either of the other two. It should be fed close, as, if it is allowed to grow up to seed, the cattle dislike it. On good soil it grows about two feet high; on poor gravelly land about half that height. It has been grown successfully even on alkali land where other grasses failed. Red Top is commonly known as Herd's Grass and it should be more extensively grown, especially in combination with other grasses. **Hulled Seed, lb., 45c, postpaid.** Write for prices, stating amount wanted.



RED TOP GRASS.

GRASSES—Continued

RYE, ENGLISH (*Lolium Percune*)—This is a valuable pasture grass which will bear close cropping. Produces an abundance of foliage, which remains bright and green during the season. The hay is relished by all kinds of stock. It will grow well on almost any land but does better in cool, moist locations. Lb., 30c, postpaid. Write for prices, stating quantity wanted.

RYE—ITALIAN (*Lolium Italicum*)—A quick-growing grass, attaining a height of 2½ to 4 feet. Thrives best on soils that are slightly moist, and will even stand considerable overflow. Grows easily and bears an abundance of foliage that makes the best and sweetest hay imaginable. Lb., 30c, postpaid. Write for prices, stating quantity wanted.

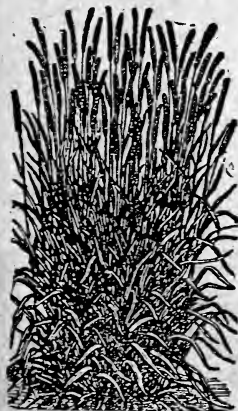
SUDAN GRASS is strictly an annual and dies each year, reaching a height of from seven to nine feet. The stems are small and rarely thicker than a lead pencil. The plant stools wonderfully and produces under favorable conditions as many as 100 stalks from a single root. All stock relish the hay and thrive on it. Yields of from two to four tons per acre are common and under irrigation they run as high as eight to ten tons to the acre.

SEEDING—Sudan Grass should not be planted until the soil has become warm in the spring. Planting in cold soil only delays germination and dwarfs the early growth. It can be sown any time during the summer as a catch crop so long as 70 to 80 days intervene before the date of the first expected frost. Sudan Grass can be sown in rows 18 to 42 inches apart and cultivated like corn, or it can be drilled in with a grain drill or sown broadcast by hand. In the semi-arid sections it is much more profitable to seed it in rows and cultivate. The rows should be as close together as the tools available for cultivation will permit. Seeded in rows 36 to 42 inches apart, 2 to 3 pounds per acre of good seed are sufficient. In rows 18 to 24 inches apart 4 to 6 pounds, and drilled or broadcast 16 to 24 lbs. per acre are required. The grass stools abundantly after first cutting.

It is interesting to note that while Sudan Grass is very drouth-resisting and makes good yields in dry sections, it also does exceedingly well under irrigation and under the latter conditions makes enormous yields of hay.

Summing it all up, Sudan Grass is a hay crop which seems to be especially adapted to the drier regions of the western states. There is always a big demand for hay and it is hard to estimate the value of a grass that will produce with certainty a good crop of hay in our western states.

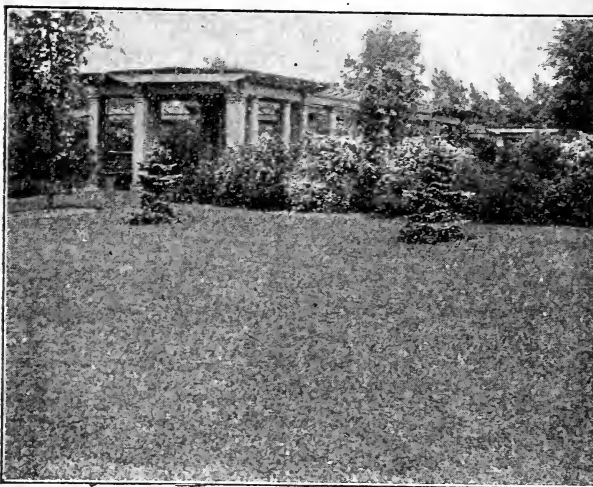
Price, Lb., 25c, postpaid. Write for price, stating quantity wanted.



TIMOTHY.

TIMOTHY — On moist, loamy or clay soils it produces a larger hay crop than any other grass. It is not so well suited for light, sandy soils. Though preferring a moist, temperate climate, it withstands extreme heat and cold. Its hay is very nourishing and can be preserved for a long time. It should be cut when flowering, as, if left later, the hay becomes hard and coarse. It is often sown along with Red Clover, and the nutritive value of the hay is greatly increased by the mixture. Height, 2 to 3 feet. Lb., 25c postpaid. Write for prices, stating amount wanted.

Lawn Grass



A beautiful lawn adds greatly to the appearance of a home. In the making of a lawn two things are very important, namely: preparation of the seed bed, and quality of the seed sown.

The most important thing to consider in selecting seed for lawn grass is to obtain a proper mixture of several varieties, for two reasons: First, each variety is at its best during a certain part of the season. By properly choosing early, medium and late grasses, a smooth, even, green lawn is assured from early spring to late autumn. Second, a given area can support only so many grass plants of one kind, for they all absorb the same sort of food, but if several varieties are sown, the same area will support many more plants, as different sorts live on various elements in the soil. With these facts in mind our Clover Leaf mixture has been scientifically combined. Our experience of many years has given us an intimate knowledge of grasses, their habits and requirements. Strangers visiting Spokane frequently comment upon the beauty of our public parks and lawns. Our Clover Leaf mixture is used very extensively on both of these, in fact there is more of it used than all other mixtures combined.

In order to keep a lawn continually beautiful, it should receive frequent applications of fertilizers.

CLOVER LEAF LAWN GRASS—Lb., 70c, postpaid. Write for prices, stating quantity wanted.

Millets

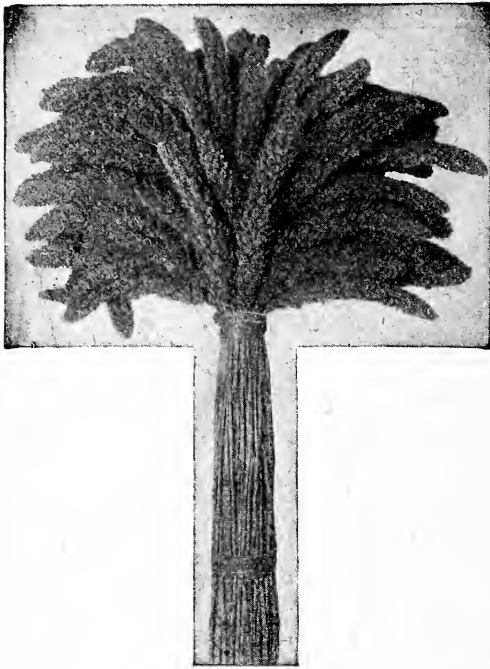
The Millets are a valuable crop for the farmer who has lost his seeding, or for some other reason expects to be short of hay, for in 8 or 10 weeks from sowing it is ready to cut for hay.

Hungarian and Siberian Millets are the earlier varieties. Millet can be sown as early as the middle of May, or as late as July 10th, although when sown July 10th, the crop comes so late in September that it is hard to cure on account of the cool weather and shorter days.

Write for prices on Millets, stating quantity wanted. All Millets, 30c, lb., postpaid.

**Rydes Calf Meal is with-
out an equal for your calves.**

MILLET—Continued



Golden Millet

GOLDEN—This grows very rank and is one of the best varieties for hay or fodder. On good rich soil it will make a growth of 4 or 5 feet high, and although the hay may seem coarse, yet it is so tender that if cut at the right stage, which is when in full bloom, even the hogs will eat the cured hay quite greedily.

EARLY FORTUNE MILLET—Has given astonishing yields of both seed and fodder. It is very early and is claimed to be rust-proof. The fodder can be fed to horses and other stock without injury, even after the seed has formed which can not be done with safety with most of the millets. The seed is large and of a beautiful red color.

HOG—Very rich and thus especially valuable as a hog food. A very much prized peculiarity of this millet is that the seed ripens while the stem is yet green; thus, if cut promptly can be threshed for the seed, while the hay after being threshed will make excellent fodder.

JAPANESE—Is of recent introduction and great claims are made for it as to productiveness and value as a forage plant. Its introducers say that it is a marvelous grower and luxuriant stooler. Recommended highly for feeding dairy cattle, young stock and sheep, being very rich in nutritious elements. Grows from four to seven feet tall, but is not harsh and woody, as other grasses are. In some sections of the country it is known as Barnyard Millet, while in other parts of the country it has been erroneously introduced under the name of Billion Dollar Grass by some seed houses.

SIBERIAN, OR RUSSIAN—Is claimed to be the most wonderfully productive and satisfactory forage plant, possessing in a superior degree all the essential merits of any of the older sorts. The claims made by its introducers are that it is from two to three weeks earlier than the Golden Millet, is a much heavier cropper, that the hay is much finer, stalks more elastic and grows much taller, that it is rust-proof, and being of stooling habit, requires much less seed per acre.

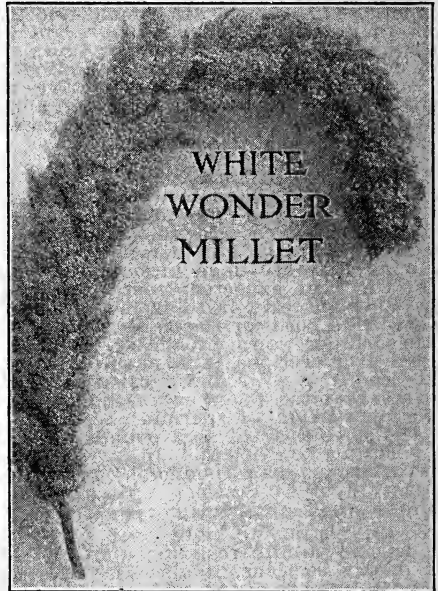
WHITE WONDER MILLET—The most striking feature of White Wonder Millet is the size of the heads, making it a very heavy yielder. The heads will run from eight up to eighteen inches and a single head will have as many as 15,000 seeds. Some growers of White Wonder Millet claim that it will outyield other millets three to one.

Another very desirable feature of White Wonder Millet is its earliness, as it comes midway between the Siberian and Golden.

The foliage is very heavy, the leaves broad, and therefore produces an immense amount of excellent fodder which cures very readily.

We believe that on account of the earliness, the immense yield of both grain and fodder, and the very vigorous growth which leave the ground clean, White Wonder Millet will soon take first place among millets.

Write for prices on Millets, stating quantity wanted. All Millets: 30c lb., postpaid.



Peas, Field

Field Peas are a very profitable crop and should be grown very extensively. They can be grown alone or with oats. When planted with grain and cut green they make a large amount of very rich feed; also very valuable for enriching the soil if plowed under. The dry peas make excellent hog feed and are quite fattening.

Write for prices on all field peas, stating variety and amount wanted.

BANGALIA—This variety has been highly recommended by our State College at Pullman, on account of its great yield. It is earlier than the other varieties of field peas, less liable to crack in threshing, has finer straw and makes better fodder, and the peas are green in color. Lb., 20c, postpaid.

CANADIAN WHITE—A leading kind; seed almost white; a heavy cropper. Lb., 20c, postpaid.

COW—Cow Peas are more tender than Canada or Field Peas and should not be sown until corn planting time. Cow Peas, being of very rapid growth during the warm weather, can be sown as late as the middle of July with reasonable assurance of a profitable crop, either for harvesting or plowing under. Are really small beans of vigorous vining habit and heavy foliage of great nutritious value, yielding five to nine tons of green feed per acre.

PEAS—Continued.

NEW ERA COW PEAS—A new, extra early variety, the quickest growing of any of the Cow Peas, maturing in about 60 days; specially adapted for planting north. Lb., 25c postpaid.

WHIPPOORWILL—A brown, speckled, medium sized pea. A very prolific seed yielder; matures about ten days later than the New Era; upright and vigorous grower. Lb., 25c postpaid.

Write for price on all field peas, stating variety and amount wanted.

Rape



DWARF ESSEX—Has been usually grown, until recent years, to furnish pasture for sheep and lambs, but is now being found equally good in providing pasture for all kinds of stock. Perfectly hardy and of remarkable fattening properties. Easily grown. Pigs, sheep and cattle are all extremely fond of it. A very rank grower and bears heavy manuring and high cultivating. Sow at intervals of several weeks and secure a supply of good feed. Sow in June. Rape should be fed in August, though if a first crop be cut about four inches from the ground an aftergrowth would be useful later. If soil is rich and clean sow broadcast, otherwise in drills and cultivate same as corn. Can be sown on wheat stubble, furnishing excellent pasture late in the fall. Lb., 30c, postpaid. Write for prices in quantities, stating amount wanted.

Vetches

SPRING—A pealike plant grown extensively in England and to a considerable extent in Canada for stock feeding, but not as much used in the United States as it should be. Lb., 25c, postpaid.

WINTER-SAND OR HAIRY (*Vicia Villosa*)—This is a very valuable forage plant—and becoming more popular every year. It belongs to the pea family, but the vines are much longer and the foliage more abundant—it improves the soil, being a great nitrogen gatherer. It is advisable to sow oats, barley or rye, etc., with Vetch, which serves as a support for the plants. It succeeds on almost any soil and should not winter kill. A sowing in August or September covers the ground before winter and prevents washing during the winter and early spring. Can also be sown in April and will be ready to cut by the middle of July, the second growth affording excellent hog pasture during the summer. The yield of forage varies from ten to fifteen tons per acre, equal to three or four tons when cured as dry hay. Lb., 40c, postpaid.

Write for prices on vetches, stating variety and amount wanted.



Buckwheat

JAPANESE—This variety excels all others; yield much heavier; ripens one week to ten days earlier; stands up better and makes better flour. Excellent for bee pasture. Lb., 25c, postpaid.

SILVER HULL—A very good and popular variety. Grain is of light gray color; has a thin husk; matures early and yields heavy. A good milling variety. Lb., 25c, postpaid. Write for prices on buckwheat, stating kind and amount wanted.

Miscellaneous Field Seeds

Write for prices on all varieties of field seeds, stating quantity wanted.

BROOM CORN, IMPROVED EVERGREEN—This is the most popular variety of broom corn to grow for the market, the brush being firm and of good length, and retaining the light green coloring when properly cured. Lb., 25c, postpaid.

EGYPTIAN CORN (also called Jerusalem Corn or Dhoura)—One of the non-saccharine sorghums, requiring the same growing conditions. Seeds well in dry sections. Producing small heads on side shoots up to eight on a stalk, the seed is larger than Kaffir corn; yield is heavy. See our prices on Sugar Cane. Lb., 25c, postpaid.

MISCELLANEOUS FIELD SEEDS—Continued.

FETERITA—A wonderful new grain which has attracted much favorable attention in Kansas, Missouri and Oklahoma. It belongs to the Sorghum family. Was introduced from Africa by the United States Department of Agriculture. The advantages claimed for Feterita are its drouth-resisting qualities, its heavy yield, its earliness, its stooling propensities and its freedom from insect pests. Feterita has successfully withstood dry weather in Kansas and other states. It branches very freely from the roots, making a single stool. It is from two to three weeks earlier than Kaffir Corn. See remarks under Sugar Cane relative to a thorough trial. **Lb., 25c, postpaid.**

FLAX SEED (Recleaned for Planting)—**Lb., 30c, postpaid.**

KAFFIR CORN—Grows 4 to 5 feet high. The stem or stalk bears numerous wide leaves. The stalks are brittle and juicy, not hardening like other varieties of sorghum. It makes excellent fodder, either green or dry, which is highly relished by cattle and all kinds of stock. See our notes on Sugar Cane. **Lb., 25c, postpaid.**

KALE—(Thousand Headed)—The great demand for this wonderful forage plant proves it to be the most valuable green feed for Pacific Coast dairy and stockmen; endorsed by Agricultural Colleges and Government stations. **Postpaid, oz., 10c; 2 oz., 20c; ¼ lb., 30c; ½ lb., 50c; lb., 90c.**

LENTILS—Succeed best in dry, sandy soil. A leguminous annual, the seeds of which are valuable for pigeons and are used largely for soups. The leafy stalks make good fodder. **Lb., 35c, postpaid.**

MILO MAIZE—This is one of sorghums similar to Kaffir Corn. Grows erect, with thick, close-jointed stalk. Height, 4 to 7 feet. Heads are very large, giving a heavy grain yield; is drouth resistant, and succeeds on alkali soil. Plant late when ground is warm. See remarks under Sugar Cane relative to thorough trial. **Lb., 25c, postpaid.**

SUGAR CANE is supposed to be grown to advantage any place where you can produce a good crop of corn. In sections where it can be grown profitably it has several advantages over fodder corn, as it is said to produce more feed and to be more drouth resistant. It is highly recommended for feed for cattle, sheep and pigs. From our knowledge of this article and our knowledge of the Inland Empire we would recommend the farmers to give this a thorough trial, but do not think it would be wise to go into it extensively until you have demonstrated that it can be grown profitably in your particular location.

EARLY AMBER—This is the earliest, richest and altogether the best sort for northern latitudes. As a fodder plant we believe this excels all other varieties, as it is sweeter, contains more nutriment and is more relished by stock. **Lb., 30c, postpaid.**

SUNFLOWERS FOR SILAGE

By C. L. Smith, Agriculturalist, O. W. R. & N.

SUNFLOWER—(Large Russian)—Although the sunflower (*Helianthus Annus*) is a native of North America, and has grown in nearly every garden in this country, it is only in recent years that it has been recognized as a forage plant. The earliest record of sunflower cultivation is found in Spain about 350 years ago. It adapts itself to a wide range of soil and climate, responding to rich soil and good cultivation much like the corn plant. It has been extensively cultivated for its seeds, which are very rich in oil. In this country, the seed has been extensively used as poultry food.

In 1915 the Montana Experiment Station tried out in a small way the growing of sunflowers under irrigation. The results were so promising that in 1917 they began some defi-

nately planned work to test the relative returns from sunflowers planted in different ways.

The highest yield they secured from planting in rows 36 inches apart, dropping the seeds 4 to 5 inches apart in the rows, using only 5 pounds of seed per acre. This gave a yield of 44.1 tons per acre.

Bulletin No. 131, Montana Experiment Station, gives the following:

"In the light of four years' experience in growing sunflowers, it has been found that the most practical way of planting the seed is with the ordinary grain drill. A sufficient number of the feed outlets should be stopped up to permit of planting only in rows 30 to 36 inches apart. The drill should be regulated so that the seeds will be dropped 4 to 5 inches apart in the row. Planting in this way, rows 36 inches apart, and seeds 4 to 5 inches apart in the row, will require 5 pounds of seed to the acre on the average. The largest yields were produced from the earliest plantings."

In Oregon and Washington some sunflowers were grown in an experimental way in 1915. The results were such as to stimulate interest, and in 1919 a considerable acreage was planted for silage purposes. The yields were in general very satisfactory, varying from 10 tons per acre under dry-land conditions to 50 tons per acre. In the higher altitudes and under dry-farming conditions, the average yield per acre were greater than with any other crop.

Feeding Value

Wherever comparisons have been made with corn silage, the results indicate that ton for ton the sunflower silage has a feeding value equal to corn silage. When yield per acre, drought and frost-resisting qualities of the sunflower are compared with corn, it is readily seen that sunflowers have a distinct advantage over corn for silage purposes in the higher mountain valleys of the West or in other sections of the United States or Canada with similar climatic conditions."

Why a Silo on Every Farm

Careful students of agriculture all agree that in order to provide for the maintenance or increase of the fertility of the soil, livestock in some form should be an important factor. That crop rotation is the best known check against plant diseases and insect pests; that to profitably carry out a system of crop rotation, there should be enough livestock kept on the farm to consume all the forage and a portion of the grain.

Such a diversity of crops is an insurance against an entire crop failure, such as often occurs with any single crop system.

Silage made from well-grown corn, sunflowers, wheat and vetch, peas and oats, rye or barley, cut at the proper stage of maturity, fed in combination with clover, alfalfa or vetch hay, provides a forage ration, succulent, palatable and properly balanced.

It cheapens the cost of milk or meat, prevents waste in feeding and saves labor.

It is an economical and satisfactory feed for calves or any young, growing stock; for breeding ewes, brood sows, in fact, it may well be made a part of the daily ration for all farm animals. It should never exceed more than one-half of the daily ration.

Any dairyman who can break even without a silo can easily make 2 per cent profit by the building and proper filling of a silo.

Lb., 25c, postpaid.

Write for prices, stating quantity wanted.

GRAIN

The great importance of sowing thoroughly re-cleaned grain is getting to be more and more recognized by the progressive farmer. Besides being thoroughly re-cleaned the seed should be selected with the greatest care, as there are sometimes foreign seeds in the different grains so nearly the size of the grain itself it becomes almost impossible to make a separation. In selecting grain for seed purposes it should be selected because that each grain has been well filled and thoroughly matured, because it has all ripened at the same time, and because of its freeness from all seeds that can not be separated from the grain. In selecting our grain for seed, all of the foregoing points are taken into consideration, then it is given a thorough re-cleaning, and as a result we are able to put on the market a strictly number one article. Kindly write us, asking for prices and state the amount wanted. Stating the amount is very important, as we do not know whether an inquirer wants one hundred pounds or a ton. In case amount is not stated we always quote price on a small amount. You are therefore depriving yourself of our best prices should you want a quantity.

Write for prices on all varieties of grain, stating kind and amount wanted.

Wheat

There is wheat and wheat, and it is penny wise and pound foolish to sow inferior quality. This inferior quality may be because the grains have not been fully developed or on account of impurity, or on account of improper cleaning. We guard against all three, hence our quality is right.

Winter—Jones Fife, Martin Amber, Gold Coin.

Spring—Bluestem, Marquis. Early Bart.

Early Marquis possesses three remarkable qualities: Remarkably early, exceedingly productive, unexcelled in milling qualities.

Earliness—It is from one week to ten days earlier than Red Fife. This is important, as this week or ten days may mean the difference between a full crop and a failure or a partial failure.

Productiveness—Marquis Wheat has outyielded all other Spring Wheat, with the exception of Early Bart, grown under the same conditions of soil, cultivation and climate. The increased yield varies from 5 to 10 bushels per acre.

Quality—Marquis Wheat has by numerous milling tests shown a higher percentage of gluten a better color, greater absorption and heavier weight per bushel of grain.

EARLY BART—This variety has only been introduced this last two or three years into the Big Bend section, and results obtained have been very satisfactory. It is a white variety, very large grains—larger than the Bluestem—and a very handsome wheat in appearance. Its milling qualities are such that the millers pay the top price for it. It is a very heavy yielder, surpassing all of the old standard varieties, and some claim that it will outyield the famous Marcus wheat. It is bearded and much less liable to shatter than any other variety.

Write for prices, stating quantity wanted.

WHEAT SMUT CONTROL

Geo. L. Zundel, U. S. Department of Agriculture.

The wheat smut problem of the Pacific Northwest is probably different from that in any other part of the world. This is due, at least in part, to the method of farming and climatic conditions.

I. The method of farming as it influences the amount of smut is due to at least three factors:

Large farms.

Predominance of wind in normal years.

The extensive summer fallow system.

II. The climatic factors here are favorable for spore germination. The unusually dry atmosphere at harvest time, together with the winds, make the dissemination of spores very easy compared with more humid areas. The usual temperature at the time when most of the winter wheat is planted is usually most favorable for spore germination.

The United States Department of Agriculture recognizes the great loss of wheat due to the various smuts. For that reason a nation-wide smut control campaign has been carried on throughout the United States.

The campaign has consisted of four parts:

Educational.

Survey.

Smut trap work.

Suction fan work on threshing machines.

EDUCATIONAL—During the fall of 1917 and the spring of 1918 educational meetings were held throughout the state. The school houses were used. Here illustrated talks on cereal disease control were held and a general talk with the farmers followed.

SURVEY WORK—The survey work consisted of visiting fields and making actual counts of the percentage of smut found. At the same time as much data as possible were collected on the date of seeding, method of treating and other cultural methods.

SMUT TRAP WORK IN THE STATE—It has previously been found that wind dissemination of the smut spores is one of the many reasons why we have so much smut in this part of the country.

This year, in connection with the smut survey work, there were 23 smut traps scattered over the state.

Leaf washings were also made at the Washington Experiment Station and microscopic examinations showed over 145,272 spores on apple leaves from the college orchard to over 8,882 spores per leaf on Spirea leaves on top of Kamiak Butte.

It will be seen then that the smut spore on the kernel is not the only source of infection and that is why seed treatment in the Northwest does not give the same results as in other sections.

THRESHING MACHINE SUCTION FANS—Up to the present time there has been no practical way of combating the effect of the smut shower except by cultural practices as outlined in Washington Agricultural Experiment Station Bulletin No. 126, a survey of which follows:

Depth of planting.

Time of planting.

Temperature and moisture at time of germination.

Replanting summer fallow.

Since the smut shower originates at the time of threshing and since smut explosions occur in this section the proposition has been put up to the thrasher manufacturing companies by the United States Department of Agriculture that something must be done in order to avert the big loss.

During the fall of 1917 there were threshing machines located in eastern Washington and northern Idaho equipped with suction fans. The operation of these fans were observed as a means of—

Preventing or lessening the danger of explosions.

Cleaning the grain of smut and other foreign material.

Reducing the intensity of smut showers.

To summarize them—

1. The source of infection of smut in the Pacific Northwest is two-fold:

Smut spores on the kernel.

Soil infection from the wind-blown smut and from smut heads left on the field.

2. Seed treatment is effective for the first source of infection, using one pound of bluestone, one pound of common salt to five gallons

WHEAT SMUT CONTROL—Continued.

of water. Dip ten minutes, then drain and immerse in lime water as follows:

One pound of quick lime to ten gallons of water for five minutes.

The use of lime lessens the injury of the bluestone to the seed.

For spring wheat use—

One pint of formaldehyde to forty gallons of water for ten minutes.

3. The soil infections must be combatted by cultural practices as given in Washington Agricultural Experiment Station Bulletin 126. The use of bluestone gives some protection against the soil infection.

4. Be very accurate in seed treatment. It costs very little to do your best. DON'T GUESS when preparing your seed for treatment.

Oats

We handle the varieties mostly grown. Our quality will be as good as careful selection and recleaning can make them.

Write for prices, stating quantity wanted.

Barley

BEARDLESS—Two strong features distinguish the Beardless Barley above all other barleys; first, its great yielding qualities; second, its freedom from the troublesome beard. It is on this account not only much more agreeable to handle in threshing than other barleys, but it is much safer and better to feed to live-stock. As a fattening agent for swine Beardless Barley is particularly valuable. Price: 100 lbs., \$5.00.

WINTER—There has been a very great demand in the past few years for a winter variety. This is sown in fall and possesses the same advantages over the spring varieties that fall-sown wheat does over spring-sown wheat. This variety is bearded. Write for prices on both varieties of barley, stating quantity wanted. Price: 100 lbs., \$5.50.

Rye

Ask for prices on rye, stating amount wanted.

Rye cross-breeds like corn. In this respect it differs from wheat, which will not cross fertilizer, if two or more kinds are grown together for years. To keep a pure rye pure, it should be grown away from other rye, like you must grow yellow corn distant from white corn.

Rye is a valuable and very hardy crop, producing green fodder either in the early spring or late fall. It matures before other crops come in and can be sown on soil too poor for other cereals. Rye does not exhaust the soil as do other grains and can be cultivated longer on the same land than any other crop on the farm.

SPRING RYE—Spring Rye is an excellent catch crop where winter grain has been killed out, or for sowing where a full crop has not been planted. If desired it can be turned under and made to answer a good purpose in adding to the fertility of the soil. Spring Rye has been almost impossible to secure the past few years and is also scarce this season again. We have secured a limited supply, and would therefore suggest the advisability of placing your order early. Price, 100 lbs., \$5.25.

WINTER RYE—The value of Winter Rye is becoming more apparent every year. It is much harder than wheat and can be grown on a greater variety of soils, even on soil that would not produce a fair crop of wheat. It will thrive even in dry seasons and on light sandy loam. It is grown not only for grain, but for fodder and soiling purposes. When sown in the autumn it starts up very early in the spring and is often plowed under, as it adds greatly to the fertility of the soil. Price, \$5.25 per 100 lbs.

Rosen Rye

Plant It to get a 50 per cent increased yield.

Rosen rye was selected and bred from a Russian rye, the selection beginning in 1909 in this country by a Russian by the name of Rosen. Rosen rye outyields common rye from 25 to 50 per cent.

Rosen rye is a stiff-strawed, large headed variety which, ordinarily has four full rows of grain on over 99 per cent of its heads. It seldom winter kills and is rapidly taking the place of wheat on lighter soils and under adverse climatic conditions.

Now that Rosen rye has proven and established its superiority over the rye as commonly grown, and in practically all rye-producing sections, it should, at once, supplant the common rye for seeding. Price \$5.50.

Price on rye is merely an estimate and is not guaranteed. Write for prices, stating amount wanted, or we will fill all orders at price prevailing on date of shipment, sending rye for the amount of remittance received.

Kill the Smut in Your Grain

If there is smut in your grain destroy it by using bluestone or formaldehyde. This trouble is becoming very prevalent, and must be destroyed if wheat is to keep up its high grade of milling qualities.

Fertilizers

Most soils in the Inland Empire are yet fairly new. Their native or virgin fertility is not yet exhausted. There are, however, many different types of soils, some of which do not naturally contain very large supplies of the different elements of plant food needed by crops. Such soils are likely soon to "run out" and need application of fertilizers carrying the particular elements in which they are deficient. These can best be restored to or built up in fertility by the use of fertilizers to stimulate increased growth until the soils can be properly brought back into good condition.

Write for prices on all fertilizers, stating amount wanted, as prices may change.

SUPER-PHOSPHATE—This is what is known as Acid Phosphate, being Phosphate rock treated with acid to make the Phosphate Acid available. The Phosphoric Acid in this is more quickly available than it is in bone meal and for that reason is sometimes more useful. It contains 20 per cent Phosphoric Acid, and is generally used at the rate of 500 lbs. to 1,000 lbs. per acre.

NITRATE OF SODA—Contains 13 per cent Nitrate, in quickly available form. It is used for forcing crops like lettuce, celery, etc., as it makes a large growth of leaves and tops.

Apply the Nitrate of Soda by broadcasting it evenly over the entire surface of the vegetable field you are fertilizing, at the rate of 200 pounds per acre, before seeding, or planting, or transplanting. Lb., 8c; 50 lbs., \$2.75; 100 lbs., \$5.00; bag 200 lbs., \$9.00; 3 bags 600 lbs., \$26.00; ½ ton, \$42.00; ton, \$82.00.

KAINIT—It contains 12.4 actual Potash and contains Potash both in the forms of Sulphate and Muriate. It contains Salts of Magnesia and also common Salt. Kainit can be used upon the crops for which Muriate of Potash is recommended.

SULPHATE OF POTASH—Contains 50 per cent Available Potash. This is similar to Muriate of Potash but is free from chlorides, and can be used to advantage in some instances where the muriate can not be used. Use about one sack to the acre.

MURIATE OF POTASH—Contains a larger percentage of Potash than other commercial forms, and is, therefore, cheaper where it can be safely used, but owing to the Chloride it contains, is not best for some crops unless applied a few months previous to planting, which allows the Chloride to leach out while all of the Potash is retained until taken up by the plants.

LAND PLASTER OR GYPSUM—Made from pure Gypsum, free from clay or other foreign matter. This is especially valuable for clover and grass crops. 100 lbs., \$1.25; 500 lbs., \$5.50; ½ ton, \$10.00; ton, \$19.00.

ANIMAL FERTILIZERS—Most of them contain both Nitrogen and Phosphoric Acid, but do not contain Potash, so that to make them complete it is necessary to add the correct proportion of chemical fertilizers.

BONE MEAL—This contains 3 per cent Nitrogen and 22 per cent Phosphoric Acid. It is slower in action, but will not dissolve and waste in the soil, as the plant food contained in the Bone Meal is released only as fast as the roots of the plants take it up. 100 lbs., \$3.75; 500 lbs., \$18.25; ½ ton, \$35.00; ton, \$68.00.

TANKAGE—This is a slaughter-house product and has very little odor. The analysis shows 5 to 7 per cent Nitrogen and 12 to 15 per cent Phosphoric Acid. 100 lbs., \$4.00; 500 lbs., \$19.00; ½ ton, \$36.00; ton, \$70.00.

BLOOD DRIED—A quick-acting fertilized analyzing very high in effective Nitrogen. This also carries some Phosphorous; is a strong fertilizer, a little going a long way. 100 lbs., \$7.50; 500 lbs., \$36.25; ½ ton \$70.00; ton, \$130.00.

SHEEP MANURE—This is the best and strongest in fertilizing and enriching elements, as it contains Nitrogen, Phosphoric Acid, Ammonia and Potash in liberal proportions. Produces immediate and lasting effect. Promotes steady and rapid growth.

FOR LAWNS—Pulverized Sheep Manure is the best possible fertilizer for the lawn. It should be applied by sprinkling lightly over the grass, much as one would sow grass seed. It requires no raking in. The color is not conspicuous and there is no objectionable odor. 100 lbs., \$2.00; 500 lbs., \$9.00; ½ ton, \$17.00; ton, \$32.00.



ODORLESS—CLEAN—EFFICIENT

For Lawns, Flowers, Gardens, Shrubs, House Plants, Fields and Orchards.

A 25-lb bag covers a lawn space of 1200 square feet. Lasts a year or more.

A tablespoonful to hill of potatoes, tomatoes or ordinary rose bush means abundant flowers, crisp and early vegetables.

A teaspoonful for 6 to 8 in. potted plant.

The small amount that it is necessary to use, makes Gromore one of the most economical fertilizers. 2 lb. pkg., 45c, add postage; 25 lb. bag, \$2.75, add postage; 125 lb bag, \$12.50. We do not break packages. Send for free booklet.

As it is impossible for us to quote with any degree of certainty on fertilizers, we ask that you write for prices, stating amount wanted.

Farm and Garden Tools

Space will not permit our showing and describing all of the "Planet Jr." Tools, but we will send a full illustrated catalog free for the asking to any one desiring it, and we can supply promptly anything ordered. "Planet Jr." goods are standard machines, the best on the market. Owing to the present unsettled market conditions, the manufacturer reserves the right to change the following prices on Planet Jr. Tools. We therefore reserve the same right.

**No. 1 Planet Jr.
Combined Drill and
Wheel Hoe.**

Price complete...\$20.50

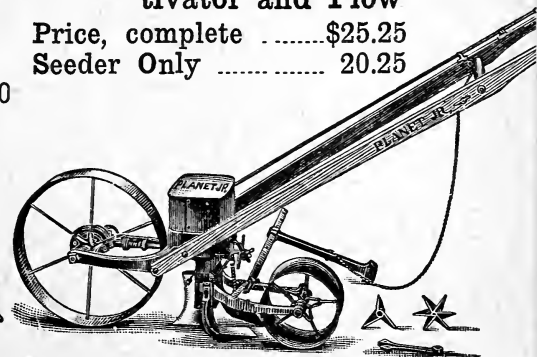


This tool is known and used the world over. The hopper holds three pints, and sows in an even, regular stream, whether there is much or little seed in it. The machine is extremely simple, has no agitators, belts or gearing, and will not injure the seed. From a drill it is changed to its other uses by removing two bolts, when hoes, cultivator-teeth or plows can be quickly attached. It is a practical everyday time and labor saver, a grand remedy for the backache, and the best low-priced combined machine on the market.

**No. 4 Planet Jr. Combined Hill and
Drill Seeder, Wheel Hoe, Cul-
tivator and Plow**

Price, complete\$25.25

Seeder Only 20.25

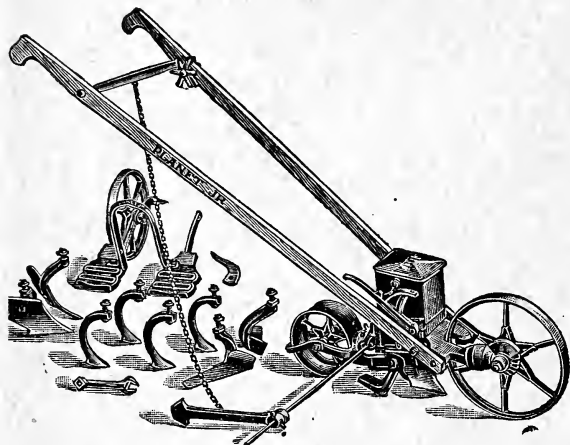


This is the most popular combined tool made. It combines in a single implement a first-class hill-dropping seeder, a single wheel hoe or weed-er, a cultivator and a plow. The hopper holds two quarts of seed, which can be sown in continuous rows, or dropped in hills, at 4, 6, 8, 12 or 24 inches apart.

The drill is detached and the tool frame substituted by removing but one bolt. It then becomes a single wheel hoe. It is useful almost every day of the season, at every stage of the garden work. With this one implement the small farmer can do practically all the work in his small crops.

No. 25 Planet Jr. Combined Hill and Drill Seeder, Double Wheel Hoe, Cultivator and Plow

Price, \$28.50



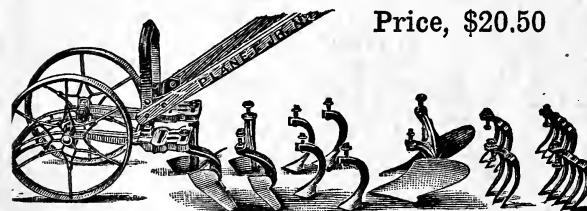
This combined machine is intended for gardeners who have a large enough acreage in crops for a double wheel hoe to be used to good advantage, and prefer not to buy separate machines.

As a drill it is almost identical with the Planet Jr. No. 4 Drill, and is thoroughly substantial and accurate in sowing all kinds of garden seeds in hills or drills.

As a wheel hoe it is identical with the Planet Jr., No. 12 Double Wheel Hoe, the very best machine on the market. The change from drill to wheel hoe takes but a moment and the whole combination is one we can heartily recommend and guarantee satisfactory.

No. 11 Double Wheel Hoe

Price, \$20.50



This is the greatest cultivating tool in the world for the onion and sugar beet grower, and also for every grower of garden crops.

They can do more work and do it better and easier than can possibly be done in any other way. One pair 6-inch hoes, one pair 4-inch hoes, two pairs hollow steel cultivator teeth, one pair plows, two 3-tooth rakes, two 5-tooth rakes, and two leaf lifters.

No. 12 Planet Jr Double and Single Wheel Hoe

Price, \$17.00



No. 12 runs either astride or between the rows; kills all the weeds and leaves the earth in fine shape. Then, too, it's easy to work.

It has a pair of 6-inch hoes, a pair of plows for opening or covering, and a set of four all-steel cultivator teeth. The tools shown are what gardeners use most and others can be added as wanted.

No. 17 Planet Jr. Single Wheel Hoe

Price, \$12.00

15 Inch Steel Wheel, Steel Frames.



No. 17 is suited to all kinds of garden cultivation and all garden crops. You can do more and better hoeing with it in one day than you can do in three days with a hand hoe. It has a pair of 6-inch hoes, a plow and a set of cultivator teeth, an outfit sufficient for most garden work.

Our field seeds are all tested. Samples furnished.

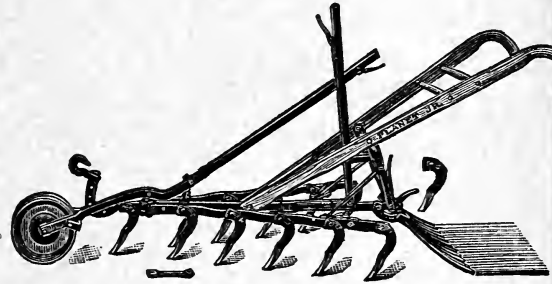
No. 19 Planet Jr Wheel Hoe, Cultivator and Plow. Price, \$8.75
15 Inch Steel Wheel.



No. 19—This attractive implement is especially designed for the farmer's garden work, though it offers to every one with either field or garden a cheap and effective tool for wheel-hoe operations. The great variety and fine shape and quality of the tools makes the implement light running and effective. It is strong, well made, and quickly adjusted. The height of the handles can be changed to suit man or woman, boy or girl.

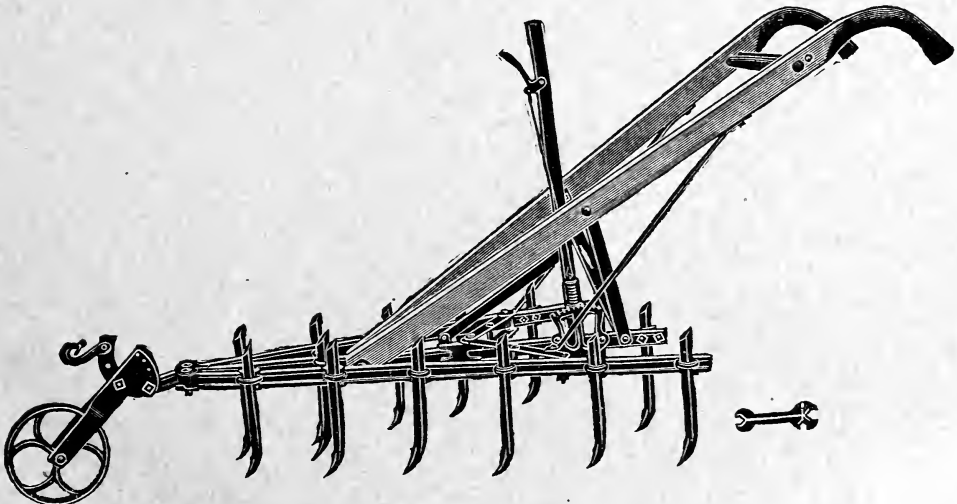
PLANET JR.'S EXTRAS—Six-inch hoes, \$1.00; 7-inch hoes, \$1.10; 8-inch hoes, \$1.25; 3-inch tooth rakes, 85c; 5-inch tooth rakes, \$1.10; 7-inch tooth rakes, \$1.35.

No. 90 Planet Jr. 12-Tooth Harrow, Cultivator and Pulverizer



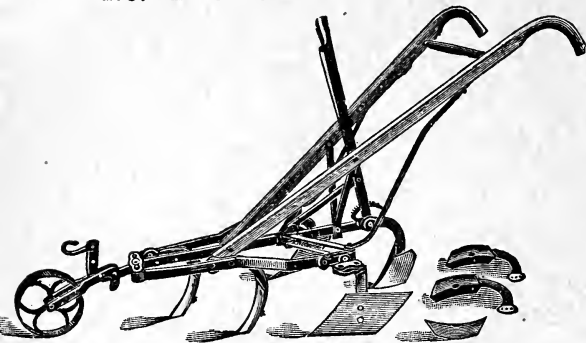
With the 12-tooth harrow here shown you go as deep or shallow as you like, come up close to row without injuring plants, cut out all the weeds, stir the soil and mellow and fine it as with a garden rake. You widen and narrow as you please between 12 and 32 inches. An invaluable tool in the market garden, truck and strawberry patches. Has new steel wheel which prevents clogging. Its 12 chisel-shaped teeth cut out all weeds, stir and mellow the soil and leave the ground in the finest condition without throwing dirt on plants. Price, without wheel, pulverizer or sweep, \$18.00; wheel, \$5.75; pulverizer, \$4.00; sweep, \$2.75.

Fourteen-Tooth Cultivators



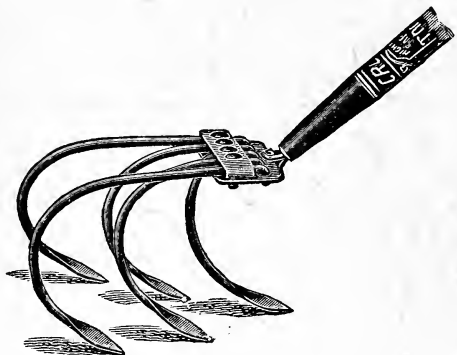
Special strong toothbars. Teeth are duck-bill shape—reversible pointed, adjustable up or down, or to change suction. Set-screw or lever spread. Price, \$12.00 without wheel. Wheel, \$1.25.

No. 2—5-Tooth Cultivator



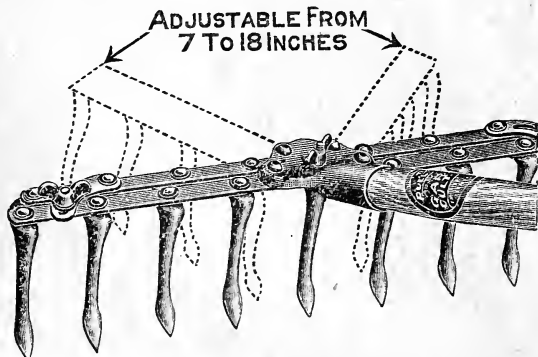
For garden, truck patch, orchard or field work. This tool is finely built throughout. Frames are high carbon steel, and are made extra long to avoid clogging in narrow rows. Standards high, reducing draft, and adjustable to change pitch of shovels. Price, \$15.00.

5-Prong Cultivator Hoes



Two prongs are changeable for rows of any width. Loosening nuts, releases the prong. Works between rows or center prong can be removed and rows straddled. A perfect weeder and pulverizer, giving level cultivation. Removing center prong and reversing other four makes it a Potato Digger. Head made entirely of steel. Light, well made, serviceable. Blue finish, $4\frac{1}{2}$ foot handle. Weight 4 lbs. Price \$1.50. Add postage.

Adjustable Garden Cultivator



A patented groove slide, secured by handy thumb screws, allows the working width of the

Cultivator to be varied from 7 to 18 inches. When the plants are young, the middle tooth can be removed by the simple loosening of a thumb screw, allowing the plants to be straddled and two rows worked at once.

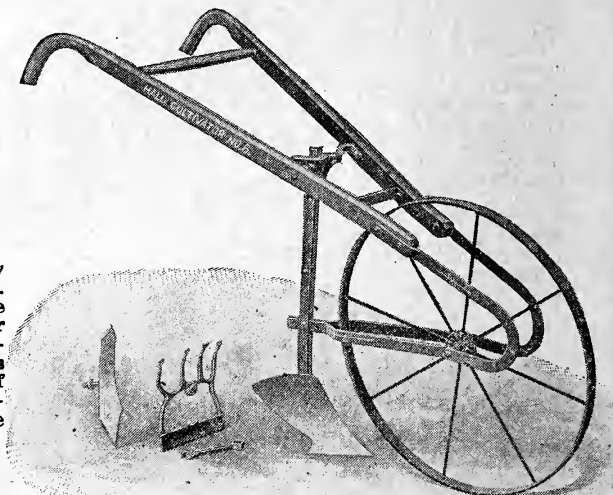
When spread out to its full width it can be used as an ordinary rake. The teeth are so arranged that no two teeth at any width adjustment are in line with each other.

It will pulverize and weed your garden thoroughly and you will enjoy working with it. Since it serves as both a rake and a Cultivator it can be put to many uses about the yard or garden.

Every part is of the best material, the teeth are drop-forged steel, set in an indestructible plate. The handle is perfectly smooth, of straight-grained, tough white-ash.

Weight 4 lbs. Length of handle, $4\frac{1}{2}$ feet. Price, \$1.50. Add postage.

Garden Plow

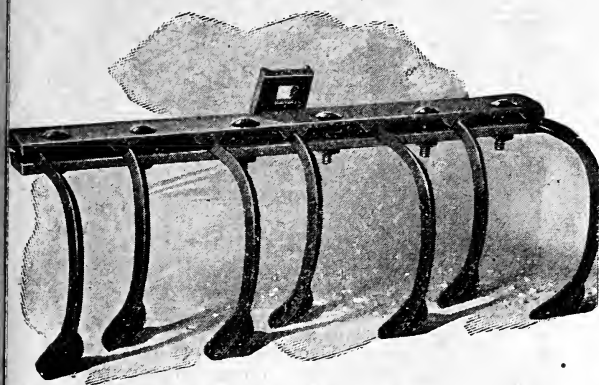


No where else will you find a better made, better finished plow for the price. A strictly high grade plow from handle to tool.

The swing frame feature gives it a hang and balance, which makes it the easiest running plow you ever saw. Instead of pushing against the axle, the curved handle applies the power ahead of axles, making a more steady and even draft.

Handles easily adjusted for easy working height for any person. Just loosen one thumb screw. Adjustable draft for light or deep cultivation. Extra heavy, 24-inch wheel, oval spokes, $\frac{3}{8}$ -inch. Bushed to prevent binding. Best hardwood handles, well-finished. Weight, 25 lbs. Price, \$7.50.

Cultivator Attachments



Here's a seven-prong cultivator attachment. Every man who owns a garden plow should have one. Prongs are made of best forged blades, and each prong can readily be removed. Attachable to any standard plow on the market. Permits a scope of cultivation impossible with stationary prong cultivators. Weight, 3 lbs. Price, \$1.50. Add postage.

Garden Trowel



Good steel trowel. Price, 20c, 25c, 50c; post-paid, 25c, 30c, 55c.

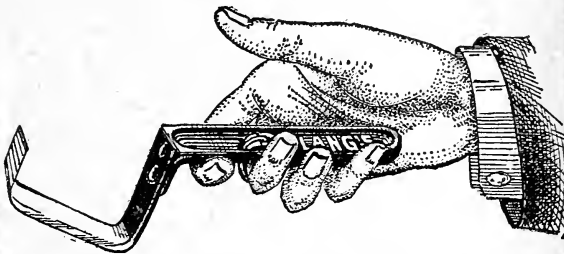


Solid socket, polished blades, bronze finish; 4 1-3 ft. handles. Weight, 3 lbs. Each, 75c. Add postage.



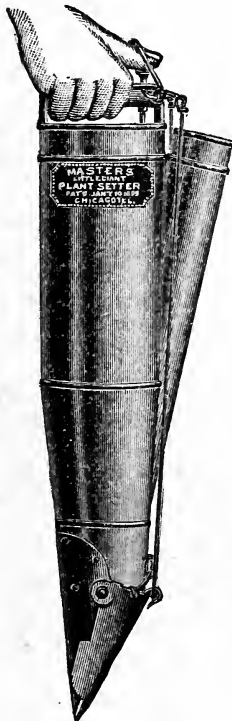
The flanged head is electrically welded to the bows. Curved teeth, capped ferrule, bronze finish; XX handles, 14 teeth. Each, \$1.50. Will not go by mail.

Lang's Weeder



It is very conveniently used, and fits the hand so comfortably that the fingers are entirely free for use wherever necessary. Price, 25c; post-paid, 30c.

Masters' Rapid Plant Setter



The only successful hand transplanter on the market for transplanting Cabbage, Tomatoes, Sweet Potatoes, Egg Plant, Cauliflower, Peppers, Strawberries, and all similar plants.

Each plant is SET, WATERED and COVERED in one operation without any stooping and no lame backs. A man simply walks along in an upright, comfortable position and will set from 8,000 to 15,000 plants per day and never have to bend his back. This is three times as fast as hand-setting and very much easier. It does perfect work. The roots of each plant are put into the ground in a natural position and firmly set by the absorption of the water. Weight, 10 lbs. Price \$6.50. Add postage.

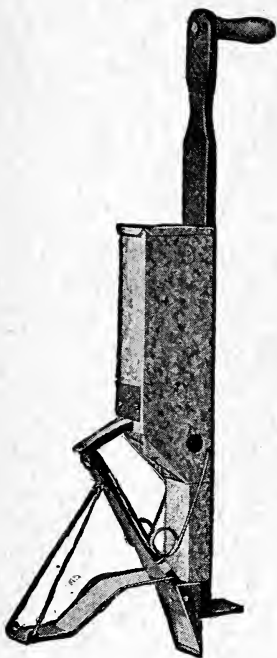
Corn Planters

ACME ROTARY AUTOMATIC — Pressed steel hopper. Hopper cup conveyor, depth gauge, dump, foot and cut-off box. Cast frame (or basket). Disc or seed plates are adjustable by means of a thumb nut to suit various sizes of kernels. Used in one hand like a walking stick. Disc is set for correct number of kernels by loosening thumb nut, moving star until pockets are of right size, then tightening thumb nut again. Plunge planter into the ground, work forward to trip seed, and withdraw. Double coil spring automatically rotates disc and closes jaws, thus filling same for next hill. Weight, 6 lbs. Price \$3.00. Add postage.



CORN PLANTERS

ACME SEGMENT— Automatic slide type. Segmental pressed steel slide, adjustable for number of kernels, running in segmental steel track. Chinese bristle brush cut-off. Double soil steel spring, adjustable depth gauge, fixed dump lever, galvanized hopper with hinged cover, galvanized seed spout, hardwood sides, handsomely painted, pressed steel jaws, smooth handle, two coats of varnish. Can be used also for planting beans. Pumpkin seeds may also be planted by operator dropping seed into hole in spout. A popular planter that has been well introduced and has given universally good satisfaction. There is not one piece of casting in this planter. There is no wear, for the segment slides in a steel guide. Weight, 5 lbs. Price, \$2.25. Add postage.

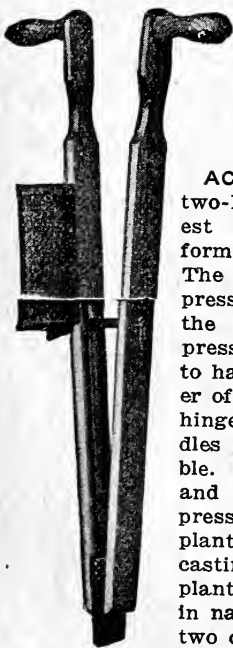


ECLIPSE ROTARY — Decidedly the best two-hand corn planter made and a very desirable implement for those who have a quantity of corn to plant. It puts the corn exactly where you want it, and at a proper depth. It is easily worked and a most satisfactory tool in every way. Weight, 9 lbs. Price, \$3.50. Add postage.

POTATO PLANTERS

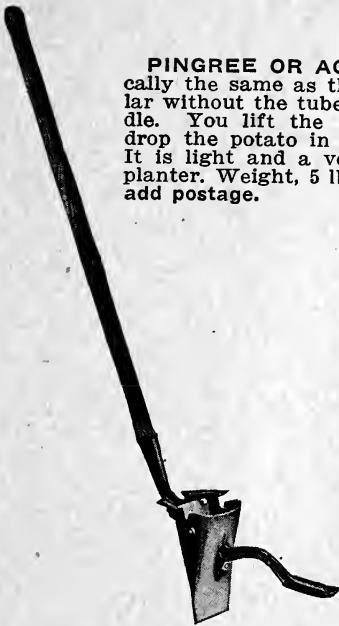
ACME SELF-LOCKING TUBULAR—The jaws are formed from bright steel dipped in a special preparation to prevent rust and have a simple and novel arrangement to hold them tightly locked or closed until thrust into the ground, when they may be freely opened. This lock is secured by the front jaw slipping down $\frac{3}{4}$ of an inch, which causes a pair of studs on its upper corners to slip over corresponding shoulders in the rear jaw. When thrust into the soil to deposit the seed, the front jaw is pushed up, releasing the lock. Galvanized iron taper conveying tube. Weight 6 lbs. Price, \$2.00; add postage.

ACME OR TRIUMPH — The two-hand, slide type, is the oldest and most widely known form of Hand Corn Planters. The segmental slide is of pressed steel, adjustable to vary the drop. The jaws are of pressed steel securely riveted to hardwood sides, and the cover of hopper is also steel with hinges to fit over the top. Handles are smooth and comfortable. The hopper, hopper bottom and conveyor tube are of pressed steel, thus making the planter complete, without a casting in its construction. The planter is handsomely finished in natural wood color dipped in two coats of durable varnish. It is strong, durable and will not crack the corn. Weight, 5 lbs. Price, \$1.50; add postage.



POTATO PLANTERS

PINGREE OR ACME—Is practically the same as the Acme Tubular without the tube down the handle. You lift the planter up and drop the potato in the lower part. It is light and a very satisfactory planter. Weight, 5 lbs. Price, \$1.50; add postage.



ACME WIRE TUBULAR—Bright steel jaws, dipped in a preparation to prevent rust. Is of the lock-jaw type the same as the Acme Self-Locking and consequently there are no springs required for its operation—a very commendable feature, and one highly appreciated by the trade. Strong hardwood handle, set into malleable iron socket securely riveted to back jaw. Foot plates provided on socket. Adjustable dump or depth gauge. Wire mesh conveying tube by which each seed can be seen when passing through the tube, thus assuring the operator that each seed is planted. No rivet heads on inside of jaws to bruise eyes on seed. Weight, 6 lbs. Price, \$2.25. Add postage.

Corn Knives

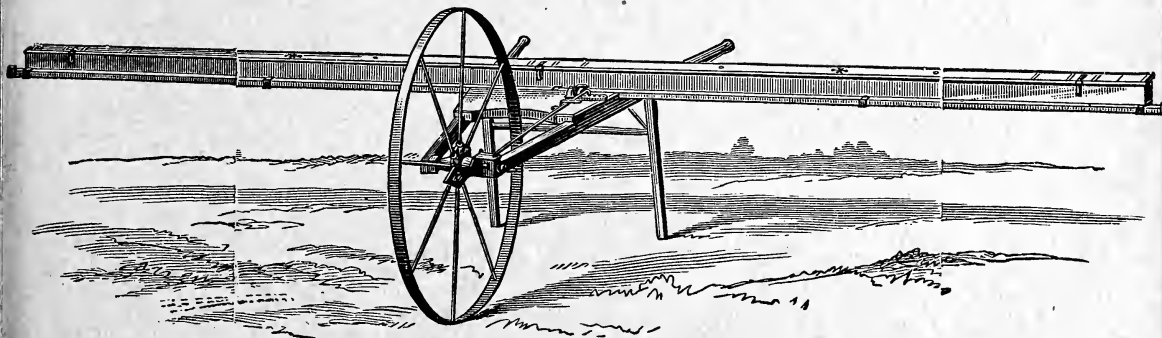


No. 6 SPECIAL STEEL—Length of blade, 15 inches. Width at end, 3 inches. Length over all, 21½ inches. Number of rivets, 3. Weight, 2 bs. Price, \$1.00. Add postage.



A very convenient and excellent tool. Mailing weight, 2 lbs. Price, 75c; add postage.

GRASS SEEDERS

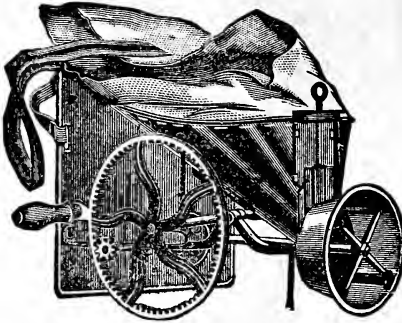


WHEELBARROW—They run easily, and sow evenly in windy weather. The quantity of seed sown is accurately governed by the wheel, which moves correspondingly slow or fast as the machine runs over the ground. This seeder is constructed on up-to-date principles. It has a strong steel wheel, 32 inches in diameter, with an inch and a quarter by one-quarter inch steel tire, is operated by a device that engages the wheel close to the hub, having a lever and working correspondingly easy. It is instantly thrown out of gear, and the amount of seed sown is quickly governed by changing the pin in the index plate as thereon indicated. This seeder does not injure or bunch the seed, but evenly distributes it in the full length of the hopper, 14-ft. spread. Price, \$14.00.

GRASS SEEDERS—Continued.

CAHOON

—The standard broadcast seeder, and one of the best made. Sows all kinds of grain, Clover, Timothy, and heavy seeds. Very simple in its operation and sows 4 to 6 acres an hour at a usual walking gait.



Cahoon Broadcast Seeder

Distributes seeds uniformly in one-fifth the time required by hand. Weight, 8 lbs. Price, \$6.00; add postage.

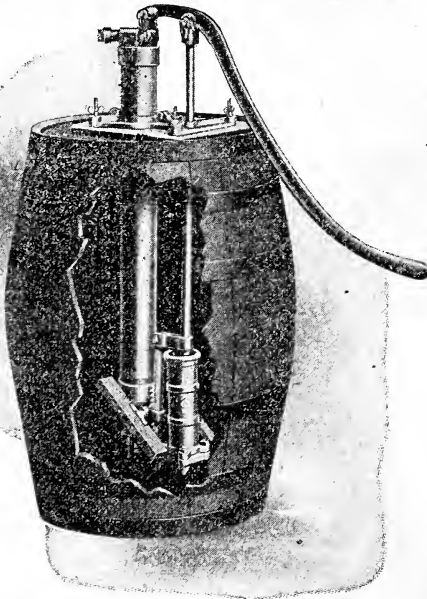
**IMPROVED CYCLONE**

Has a Slope Feed Board—This feature is found in no other Sower, as the Improved "Cyclone" is the only Hand Seed Sower that is framed together with a slope feed board. This is a marked improvement over the single-board type, as it insures a filled hopper always, until seed is exhausted.

Triple Gears—are all adjustable. Automatic Feed Shut-off—starts or stops flow of seed instantly.

The Improved "Cyclone" is guaranteed to sow perfectly all seed that can be sown broadcast, such as clover, timothy, millet, flax, wheat, oats, alfalfa, etc., etc. Weight, 5 lbs. Price, \$2.75; add postage.

Pumps

BEAN LITTLE GIANT NO. 70**Spray and Whitewash Pump**

"Little Giant" is recognized as the best and most powerful barrel sprayer on the market, giving universal satisfaction for small orchards of a few acres.

The pump has a large steel air chamber, making it easy for the operator to keep up a high pressure, and continue spraying for some time after pump has stopped.

It has no stuffing boxes, glands or outside packings, thereby insuring easy running.

Rotary agitator that is positive, insuring thorough agitation for such heavy solutions as arsenate of lead, Bordeaux, whitewash and cold water paint.

No. 70—Pump only, with "Rapid Mixer," top plate, anchor, hose nipple and thumb bolts ready to fasten to barrel. Price \$35.00.

For price of Rods, Cut-Offs, Nozzle and Hose, see pages 80-81.

BEAN "PIPPIN" NO. 50

The Bean Pippin, No. 50, is especially adapted for use on side hills and very rough ground, because the air chamber is entirely contained within the barrel, so it is almost impossible to tip over.

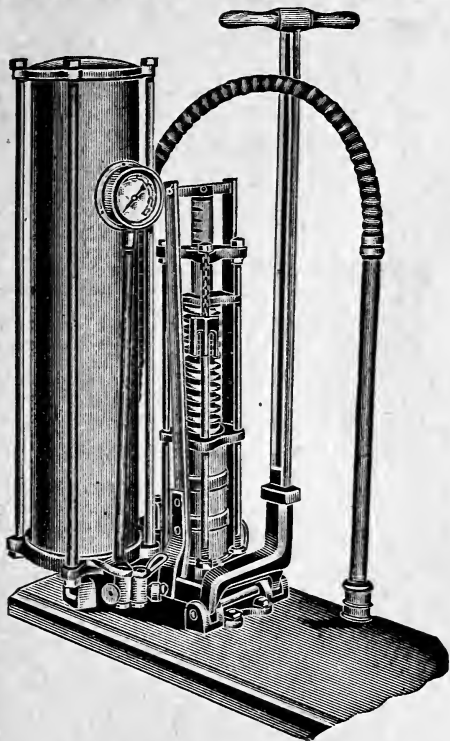
It also meets the demand for a low-priced, high-class sprayer for small orchards, vineyards or whitewashing jobs.

It has an anchor in the bottom of the barrel on which the point of the cylinder rests, which holds it rigidly in position. It is made to fasten in a barrel without a head, so is extremely easy to mount.

No. 50—Pump only, with agitator complete, anchor, hose nipple and bolts ready to fasten to barrel. Price \$22.00.

For price of Rods, Cut-Offs, Nozzle and Hose see pages 80-81.

THE MAGIC SPRAY PUMP



Magic pumps represent a principle in construction, found in no other spray pumps.

This construction means maintaining the high pressure that is absolutely essential with only two-thirds of the labor necessary with any other pump.

In addition to the overwhelming superiority the Magic and other Bean Spray Pumps are the only ones which—

Have non-corrosive porcelain cylinders, 3-inch;

Have no stuffing box or outside packing.

Have 5 1-16 inch bell metal ball valves with reversible and removable seats;

No threads inside the valve;

Have a powerful spring, which is so used as to save one-third the labor;

Weight, 200 pounds.

PUMP ONLY—With gauge, double cut-off, suction hose and strainer, \$97.00. For price of rods, cut-offs, nozzles and hose see pages 80-81.

SPRAY GUNS

PILOT SPRAY ROD—The Pilot Spray Rod is a highly improved spraying gun, suitable for use either with power sprayers or the larger size hand outfits. Two or three of these can be used, with a power sprayer, and give excellent results. The operation of the Pilot Rod is identical to that of the Bean Giant and Bean Pony Spray Guns, excepting that it has a smaller capacity and a different system of controlling the nozzle, and is driven much further than with the ordinary bamboo extension rods and nozzle. The Pilot Spray Rod throws a heavy penetrating mist or a long-distance spray. This is an excellent spray gun for the small or medium size orchard.

Price, \$7.00. Weight, 5 lbs. Add postage.

GIANT SPRAY GUN—Eliminates entirely the use of spray rods. One man can spray as rapidly and more efficiently with this gun than two or three men with ordinary spray rods and nozzles. Half-inch hose is too small and reduces the pressure considerably.



Pilot Spray Rod



Giant Spray Gun

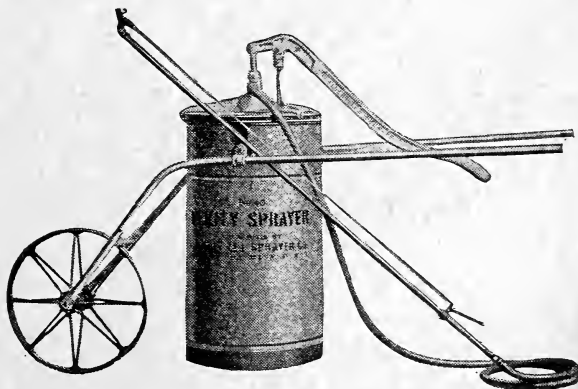
From Full Fog Through Long Distance Spray and Back to Cut-off—The master Pilot Spray Gun throws a full penetrating spray. Its operation is very simple. One-quarter right turn of the handle produces full fog spray, and complete half turn produces long-distance spray. Cut-off is accomplished by stopping the outlet hole, without ground plugs or expensive replacements and is instantly operated by complete half turn to the left. The operator can stand in one place and spray from bottom to the top of the trees or vice versa, simply by turning the handle of the gun, thus regulating the force of the spray. The Master Pilot Spray Gun throws a spray to the tops of the tallest trees. It is only three feet long and is easily carried anywhere. Simple—durable—efficient—easy to clean.

Capacity, 8 gallons per minute. Price, \$11.50. Weight, 6 lbs. Add postage.

UTILITY SPRAY OUTFITS

Nos. 40 and 40A

This Outfit Is Light, Compact, Easy to Operate.



SPRAY OUTFITS—Continued.

Very useful for painting, whitewashing, and spraying warehouses, factories, barns, trees and greenhouses.

TANK is larger than most similar outfits, made of heavy galvanized iron, re-inforced at top and bottom with heavy band iron rings. Capacity, 18 gallons.

PUMP—The cylinder is made of heavy brass tubing and has brass plungers packed with specially treated cotton wick to resist action of chemicals; can be tightened or expanded without removing from cylinder. Valves and all parts that come in contact with liquids are brass. Iron handle of good length makes pumping easy; 175 pounds pressure is easily maintained. Mechanical agitator keeps liquids thoroughly mixed. A fine strainer at suction end prevents sediment getting into working parts of pump.

FRAME substantially built of steel, well braced and balanced.

Price, \$34.00.



40A

No. 40A—Same in construction as No. 40, but equipped with an air pressure tank mounted on pump casting. This makes a one-man outfit. By obtaining 250 pounds pressure considerable spraying can be done without pumping.

Price, \$48.00.

The Success Bucket Spray Pump

All Brass Working Parts, with Indestructible Bronze Valves, Malleable Iron Foot-Rest.

This outfit is a most excellent one for ordinary use in gardens, vineyards and orchards; for washing windows and buggies and for the application of white-wash. The pump has a large air chamber and is double acting, throwing a continuous stream either solid or in fine spray. It is provided with Bordeaux nozzle and four feet of discharge hose. Weight, 8 lbs. Price, 8.25. Add postage.



Lowell Bucket Pump



The "Lowell" is double acting, discharging one-half the solution on both the up and down stroke, thus giving a continuous spray. Will develop a good pressure; is easy to operate; is practically non-breakable and will last for years.

SPECIFICATIONS

PUMP: All working parts of pump are brass, including cylinder, plunger tube, plunger valve seats and valve caps. The valves are 9/16-inch solid bronze balls. Nothing to rust or corrode. The ball valves insure free movement of the liquid, and are practically nonclogging.

AIR CHAMBER: The hollow plunger tube acts as an air chamber.

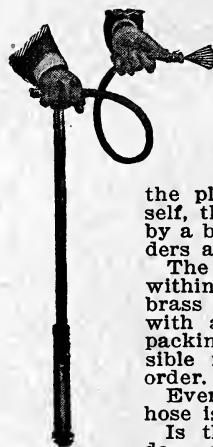
HANDLE: Is made of malleable iron.

HOSE AND NOZZLE: Our own special designed nozzle is used with 3 feet of 3/4-inch hose.

FOOT REST: Is of malleable iron, 13 inches high, and clamps to cylinder of pump.

Price, \$6.25. Weight, 9 lbs. Add postage.

The Ideal



This pump does away entirely with the objectionable foot-rest, clamps, leather suction, packing, etc. It requires no fastening of any kind and holds itself down and works anywhere and everywhere. All the operator need do is to press the plunger down. It rises of itself, the upward stroke being made by a brass spring forcing the cylinders apart.

The all-brass suction working within a brass cylinder with all brass valves, does away entirely with all leather, rubber, or other packing. It is practically impossible for any part to get out of order.

Everything except handle and hose is solid brass.

Is the easiest working and will do more different kinds of work than any pump ever made. Will pump from a pail, barrel, tank, spring or creek. Without fastenings of any kind it stands firmly wherever placed.

Will throw two solid continuous streams, one flat spray and one fine round spray. Has automatic mixer to keep solution stirred.

Weight, 5 lbs. Price, \$5.25; add postage.

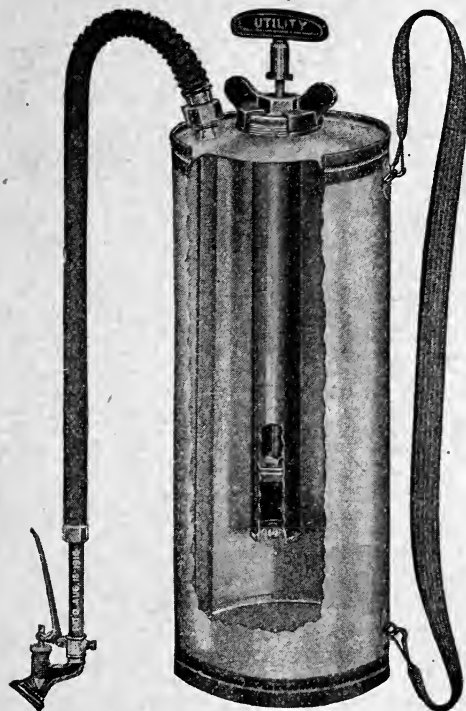
Utility Compressed Air Sprayer

The Utility is designed to meet the requirements of an extra high pressure sprayer, which is very essential in obtaining a fine spray for high trees, poultry houses and other outbuildings, as well as vegetation of all kinds.

The Utility is especially adapted for white-wash, cold-water paint, Bordeaux mixtures and Paris Green.

THE TANK should be filled to the line indicated on the outside. It being tested to 95 lbs. pressure to the square inch at the factory insures a safe working pressure. It will give a real spray if the operator will only push on the pump handle. The tank is fitted with a

SPRAY OUTFITS—Continued



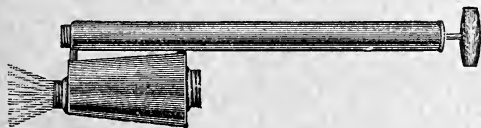
Utility Compressed Air Sprayer

standard garden hose connection, making it useful for other kinds of work as well. Tank requires no special wrench for opening when refilling is necessary.

THE PUMP can be easily removed by a one-quarter twist of the opening cap. The cylinder is made entirely of brass tubing with a ball check in the bottom which will not stick. The pump and filling cap are held in a tight position by a gasket locked tight by a four point expansion device. There being no twisting action on the gasket, prolongs its life indefinitely.

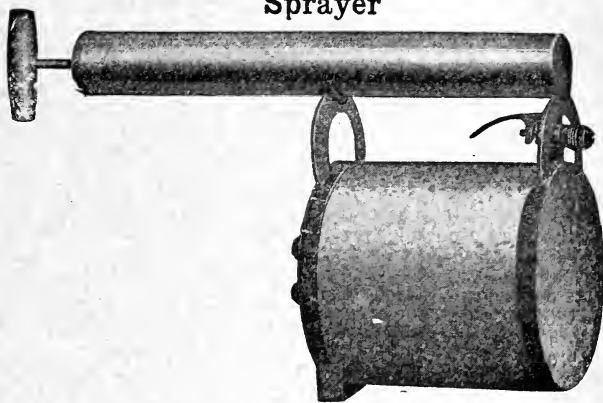
THE NOZZLE is made of all brass, and can be operated at any distance by merely adding a longer piece of one-quarter inch gas pipe and a piece of wire. The valve stem is made of a special hard brass, seating on a soft brass ground seat. This makes the best kind of shut-off known. The valve contains a strainer which positively prevents clogging. The valve stem has a packing box which can be tightened in case of necessity. Capacity, 3½ gallons. Weight, 11 lbs. Price, \$7.50. Add postage.

Inland Powder Sprayer



In some sections potato growers, stock and poultry raisers prefer to use Paris Green and disinfectants in powder form, mixed with dry plaster. To meet such a demand the "Blow" Sprayer is recommended. This will be found to be one of the best powder sprayers on the market and will give entire satisfaction. Weight 2 lbs. Price, \$1.00. Add postage.

Inland Business Compressed Air Sprayer



The Inland Business Sprayer is one of the most popular with the trade because it meets the demand of the general public for gardens and small fruits. It is a compressed air sprayer giving a fine, continuous spray; so fitted with a powerful pump, that by an occasional stroke of the plunger the air pressure is easily retained.

The tank is made of heavy galvanized steel, fitted with an air pump of heavy tin plate, and all spray tubes and nozzles of solid brass.

It meets the demand for a compressed air sprayer at a low price.

Pump cylinder 14½ inches long by 1¾ inches in diameter.

Plunger rod of ¼ inch bright steel; our special type plunger; bumper washer securely soldered.

Plunger of best leather obtainable properly cupped. Capacity, one gallon. Weight, 3 lbs. Price, \$3.75. Add postage.

Inland Continuous Sprayer



The Inland Continuous Sprayer is so constructed that it not only sprays on the downward stroke of the plunger but also when it draws back, thus causing a continuous mist-like spray.

The air chamber measures 1½ inches in diameter by 14 inches long. Has a ¼-inch steel plunger rod; special type plunger. The sprayer is fitted with a 3-16 inch brass ball check valve. The solution tank is made from heavy IX tin, ¼-inch zinc filler cap. Capacity one quart. Extra tip for spraying upwards, with each machine. Weight, 2 lbs. Price, \$1.00; add postage.

SPRAY OUTFITS—Continued

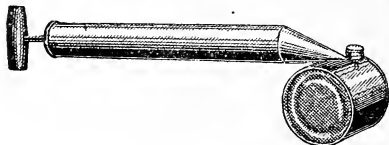
Inland Special Sprayer



Inland Special Sprayer is a Single Tube Tin Sprayer. The pump cylinder measures 1 1/4 inches in length by 1 1/4 inches in diameter.

Sprayer is fitted with a 1/4-inch steel plunger rod; special type plunger. The special arrangement of the spraying tube is such that it thoroughly breaks up or atomizes all oils and solutions into a fine mist-like spray which penetrates all cracks and crevices. Weight, 2 lbs. Price, 75c. Add postage.

Baby Midget Sprayer



A small size single tube Tin Sprayer for household use. Strong and substantial and possessing every feature of the larger types.

TANK: Tin, 3 inches in diameter, 2 3/4 inches long; 3/4-inch can screw for filling; 1/4-inch plunger rod. Black handle and plug. Pump tube, 1 1/4 inches in diameter, 10 inches long. Length over all, 15 1/2 inches. Capacity, about 1/2-pint. Price, 50c. Weight, 1 lb.... Add postage.

Insect Powder Blower

Price, 25c and 35c; postpaid, 30c and 40c.

PUMP ATTACHMENTS

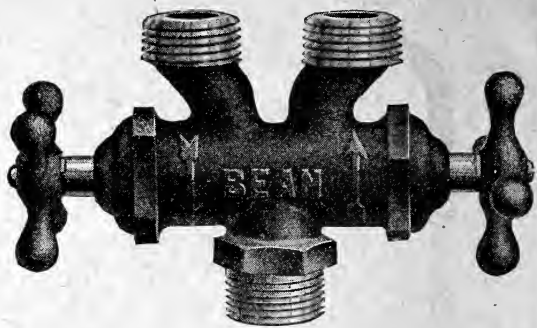
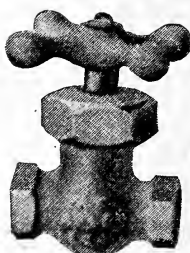
Clamps

Two of these clamps can be used on our long shank couplings and mender.

Price, postpaid, each 10c; 3 for 25c; dozen, postpaid, 90c.



BALL CUT-OFF—The perfect 1/4-inch rod cut-off. Far better than a globe valve for it opens full with less than one turn of the handle. Better than any lever cut-off because it will not leak, since the ball revolves instead of wearing. Fits any spray rod. Price, \$1.50; postpaid, \$1.55.

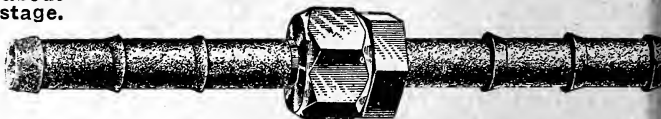


BEAN DOUBLE BALL CUT-OFF—It is much simpler and less expensive than two single cut-off valves, and is fitted for 1/4-inch hose couplings on the discharge ends, and 3/4-inch pipe thread on the inlet. Either line of hose may be shut off without affecting the other, or both may be turned on or off. No spray pump should be used without this cut-off. Price, \$4.00. Postpaid, \$4.10.



HOSE CONNECTION—To connect 1/4-inch hose to spray rod. Price, each, 35c; postpaid, 40c.

Spray Hose Menders. Price, 30c; postpaid, 35c.



HOSE COUPLING—With hexagon nuts and double length shank, so will not putt or blow out.

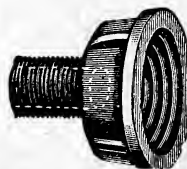
Price, per pair, 75c; postpaid, 80c.

Female half only, 40c; postpaid, 45c.

Male half only, 40c; postpaid, 45c.

Hose Reducers

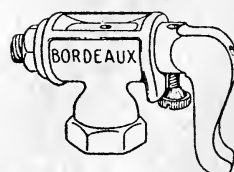
HOSE REDUCERS—These are for connecting a male hose coupling on end of spray hose to the spray rod. The two-piece connection has a swivel joint and is easily attached. When the one-piece connection is used the entire rod must be turned in screwing on.



Price, one-piece reducer, 30c; postpaid, 35c.

NOZZLES

BORDEAUX—This nozzle is a new pattern which eliminates the common objections to this type. The handle is built close down to the body and is shaped so as to avoid



catching in the branches. The corners of the slot are cut away, leaving plain straight faces which form a clean-cut spray without ragged edges. Price, \$1.50; postpaid, \$1.55.

SPRAYS—Continued

CLIPPER (Patented)—Throws a most perfect, flat fan-shaped spray. The spraying lips are so shaped that all parts of the spray travel the same distance from the lip, thus meeting the same resistance and so carry just as far after leaving the nozzle. It throws either a fan-shaped spray, a long-distance spray or a solid stream; can be shut off altogether. Especially adapted for whitewashing and painting. Price, \$1.50; postpaid, \$1.55.



MAJESTIC ANGLE—Throws a very large, beautiful, penetrating spray. Fitted with removable eddy chamber. The nozzles can be easily taken apart and cleaned. Wearing parts are cheaply and quickly replaced. Extra metal disc furnished with each nozzle. Price, \$1.50; postpaid, \$1.55.

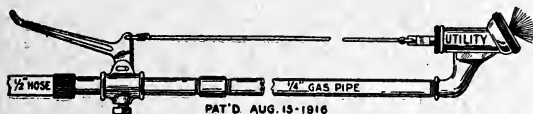


Illustration shows Angle Adjustable Nozzle in the extended form on spray rod.

Valves of nozzles are brass with unusually large waterways and strainer to prevent clogging when spraying whitewash or other heavy mixtures.

With our patent feature the shut-off is always at discharge end regardless of what length of pole is used. This eliminates use of stop-cock. Nozzle seats are brass, not rubber. Price, each, \$2.00; postpaid, \$2.05.

VERMOREL

This nozzle throws a beautiful, misty, circular spray. All trouble caused by clogging in the bend is avoided by having the stem detachable. This also shows the nozzle to be turned at any angle desired. Price, \$1.40; postpaid, \$1.45.



1/4 NOZZLE ELL—It is very important to spray down into the blossom. This piece has just the right angle and screws onto the end of any spray rod. Then attach the nozzle.

Price, 40c; postpaid, 45c.

1/4 NOZZLE Y—The Brass Y shown here will screw onto any

spray rod, and all kinds of spray nozzles screw into the other two ends. This is intended for use when two nozzles on one rod are desired.

Price, 80c; postpaid, 85c.



ANGLE NOZZLE Y—1/4-Inch. Price. 85c; postpaid, 90c.

PRESSURE GAUGE REGISTERS—200 lb., price, \$5.25; postpaid, \$5.35. Registers, 300 lbs., price, \$5.25; postpaid, \$5.35.

Bamboo Extension



Threaded for nozzle and stopcock.

BAMBOO ROD—Aluminum Lined—6 feet, \$3.50; 8 feet, \$4.00; 10 feet, \$4.50; 12 feet, \$5.00.

BAMBOO ROD—Iron Lined—6 feet, \$2.50; 8 feet, \$2.75; 10 feet, \$3.00; 12 feet, \$3.25.

IRON RODS ONLY—5 feet, \$1.00; 8 feet, \$1.25; 10 feet, \$1.50; 12 feet, \$1.75.

Hose

The high pressure and corrosive and oily materials used in spraying are very destructive to ordinary spray hose, and have caused many persons to believe that hose for this purpose cannot be relied upon to last out a season's hard usage. Our Spray Hose is constructed and treated on purpose for this use, and as it saves annoyance and lasts longer, it is much more economical. Furnished in 12 1/2, 25 and 50 foot lengths. 5-ply 25c per foot. For power sprayers. 30c per foot.

This is of extra fine quality. 1/2-inch size. Fittings, \$1.00 extra. Fittings consist of one hose connection, one female coupling and four hose clamps.

Hose Washers, 1/2-Inch rubber, doz., 10c.

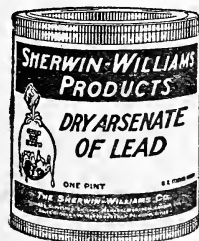
SPRAY MATERIALS AND INSECTICIDES

The secret of successful spraying lies in knowing the correct time in which to spray.

The very important fact that thoroughness in spraying is one of the main points should be remembered. Many failures can be traced to the lack of thoroughness.

It is also important that the orchardist should become familiar with the name and character of the different diseases and pests. If the disease is not known apply to your inspector for information. Specimens of diseased fruit or leaves, or other portions of trees or plants, may be forwarded to your state experiment station without cost, where a careful microscopical examination will be made and the disease identified.

Arsenate of Lead



Owing to unsettled conditions the quotations made on spray materials are not guaranteed. Write for price, stating size and quantity wanted.

SPRAY MATERIALS—Continued

Powdered

Dry Powder Arsenate of Lead mixes quickly and easily; and is very adhesive. Dry Powder Arsenate is a light, fluffy powder that cannot freeze, dry out, cake or lose its strength.

Dry Powder Arsenate of Lead may be mixed with water and applied as a liquid spray or it may be used as a dust spray. If applied as a liquid spray it is usually used 1 pound to 1½ pounds to 50 gallons of water. For potato beetles and other insects that are hard to kill use two to three pounds to 50 gallons of water. If used in the dust form it may be applied as received by finely dusting on the foliage or it may be mixed with an equal bulk of freshly burned wood ashes or powdered lime.

Price, ½ lbs., 40c; lb., 60c; 25 lbs., \$10.00; 200 lbs., \$56.00.. Also packed in 4-lb paper packages; 12 and 24 packages to case. Price: Packages, \$1.50; case of 12 packages, \$16.25; case of 24 packages, \$30.00... Not mailable.

Write for prices, stating size and quantity wanted.

Arsenate of Calcium

Its uses are similar to those of Arsenate of Lead and it is especially adapted for use on seed fruits for the control of codling moth, curculio and other insects against which Arsenate of Lead is ordinarily used.

Arsenate of Calcium is not recommended for stone fruits such as peaches, Japanese plums, etc.

Due to the low percentage of water soluble arsenic that it contains, danger of burning is reduced to a minimum.

Price: Lbs., 60c; 5 lbs., \$2.75; 25 lbs., \$10.00; 50 lbs., \$18.00; 100 lbs., \$30.00; 200 lbs., \$54.00. Not mailable. Ask for prices, stating size and quantity wanted.

BORDEAUX MIXTURE

Dry Bordeaux is a dry powder and is packed in sift-proof impervious packages. There is no danger of freezing nor of drying out in the package. Keep tightly closed and away from moisture as much as possible.

It is scientifically founded so as to insure perfect results, and if used in accordance with directions it gives a splendid, fungicidal spray which stays in suspension well, adheres to the foliage and can be used in combination with Paris Green, Arsenate of Lead or other insecticides with an extraordinary degree of safety. Price: Lb., 40c; 5 lbs., \$1.75; 25 lbs., \$6.50; 50 lbs., \$11.00; 100 lbs., \$20.00.

Ask for prices, stating size and quantity wanted. Not mailable.

SPRA-MULSION

SPRA-MULSION is a high quality insecticide and scalecide.

For spraying dormant trees for Brown Apricot Scale, San Jose Scale, Aphis Eggs, Red Spider Eggs, Moss, etc., use from 12 to 16 gallons of SPRA-MULSION to make 200 gallons of dilute spray. Where the trees are badly covered with moss, it is advisable to add about 8 pounds of Caustic Soda to each 200 gallons of water. The Caustic Soda should be dissolved in the water first and the SPRA-MULSION added. This application should be made in the fall after the leaves are off, or previous to the buds swelling in the spring.

For Pear Thrips on Pear and Cherry Trees and Aphis on Apple and Cherry Trees, etc., before blooming use from 6 to 8 gallons of SPRA-MULSION and 1 pint of Black Leaf "40" to make 200 gallons of dilute spray. For spraying after the trees bloom, use 4 or 5 gallons of SPRA-MULSION and 1 pint of Black Leaf "40" to make 200 gallons of dilute spray. Dilute the Black Leaf "40" in the spray tank first; then add the SPRA-MULSION and do not

agitate or stir after the materials have once been thoroughly mixed and are uniform.

Shake the barrel or container thoroughly from end to end and be sure the various ingredients are properly mixed before removing for use. Gallon, \$1.25; 5 gallons, \$4.50; bbls., \$27.00. Not mailable.

DRY LIME SULFUR

Containing Other Compounds.



This is the only actual Dry Lime Sulfur on the market that can be used for any purposes for which Liquid Lime Sulfur Solution has been used heretofore. It is simply the Liquid Lime Sulfur Solution dried and only the addition of water is required to produce the spray. Every grower knows Lime Sulfur Solution and what it will accomplish, and the material has come into general use despite its many disadvantages.

Directions: From ten to twelve pounds of Dry Lime Sulfur dissolved in fifty gallons of water should be used as dormant spray against scale, insects, etc. From two to three pounds to fifty gallons of water in combination with the usual proportion of Dry Arsenate of Lead should be used for summer spraying on all seed fruits, such as apples, pears, quinces, etc. From one to one and one-half pounds to fifty gallons of water in combination with the usual strength of Arsenate of Lead should be used for summer spraying of peaches, plums and all stone fruits.

Price: Lb., 35c; 5 lbs., \$1.50; 10 lbs., \$2.25; 25 lbs., \$4.50; 50 lbs., \$7.75; 100 lbs., \$13.50; 200 lbs., \$24.00. Not mailable. Ask for prices, stating size and quantity wanted.

Bluestone

Used successfully in winter sprays. Lb., 30c postpaid. If wanted in 100-lb. or barrel lots, market price.

**VEGETABLE SPRAY**

The root-maggot, as well as the strawberry crown borer, is hatched from an egg deposited on the plants by the maggot fly. This fly dislikes the odor of the spray and will not deposit the eggs where this odor is present. To get best results the ground should be sprayed freely before planting, then again as soon as the vegetable comes up and before the maggot fly makes its appearance. The spray will kill maggots, grubs, cutworms and caterpillars by contact when freely used. It is better to spray early and often enough to prevent the deposit of eggs than to wait and kill the worms.

The spray should be reduced one part spray to 125 parts water. In wet weather and when there is lots of moisture, apply mixture of about one part spray to 100 parts water.

Ordinarily an application every three or four weeks should be sufficient to keep vegetables entirely free from pests.

Half gallon, \$1.75. Not mailable.

SPRAY MATERIALS—Continued

"Mag-o-tite"

"Mag-o-Tite" acts as a preventive by repelling the Fly which lays the eggs from which the Maggots are hatched and it also destroys Maggots which are already in the soil. While intended primarily as a remedy for Root Maggots, it has proved very effective in combatting Earth Worms of all kinds, the Strawberry Crown Borer, Cabbage Worms, Asparagus Miner, Flea Beetles, Cut Worms and all kinds of Slugs.

Directions—Sprinkle in and over the drills when seeding, and around the roots when planting, and after the plants are through it is sprinkled around and alongside of them.

A 2-lb package will cover about 300 feet of drill, mixed with the soil at planting time, with an occasional top dusting as a preventive during the growing period.

For field culture the approximate quantity required is from 300 to 500 lbs. per acre.

2 lb. pkg., 35c; 4 lb. pkg., 60c; 8 lb. pkg., \$1.00; 25 lb. bag, \$2.50; 100 lb. bag, \$8.50. Add postage.

SPRAYOMETER

The Lime-Sulphur wash for spraying has become recognized by the orchardist as one of the best and most economic remedies for numerous forms of disease, fungi and insects, injurious to fruit trees.

It is necessary to know the strength or weight of the solution and the only practical way of ascertaining this is by means of a Hydrometer. The Hydrometers made for this purpose are known as "Sprayometers."

SPRAYOMETER SET, consisting of one LISUL Sprayometer, one 12-inch plain Glass Cylinder in wooden container, with full instructions. Per set, \$2.50; postpaid, \$2.60. Sprayometer only, \$2.00; postpaid, \$2.10.

We exercise the greatest care in packing all glassware, but do not insure its safe delivery. Forwarded only at purchaser's risk.

BLACK LEAF "40"

A Concentrated Solution of Nicotine-Solution (Poison)



For the convenient information of those desiring to use "Black Leaf 40" the following suggestions are made:

Against sucking insects, such as Green and Woolly Aphis, Pear Psylla, Grape Leaf Hopper, Pear Thrips, etc., 1 part "Black Leaf 40" to about 900 to 1,000 parts water.

Against more resistant plant lice, such as Black Aphis and Rosy Apple Aphis, 1 part "Black Leaf 40" to about 500 to 700 parts water.

The addition of one or two pounds of any good soap, or of Whale Oil soap, to each 50 gallons of water is often very advantageous. When using dissolve the soap in the water before adding "Black Leaf 40."

Price, 1 oz. bottle, 25c; 1/2 lb. tin, \$1.00. 2 lb. tin, \$3.25; 10 lb. tin, \$13.75. Not mailable.

FORMALDEHYDE

This has proved to be much better than vitriol, etc., for treating grain to prevent smut or for treating potatoes to prevent blight and scab. One pound is sufficient to treat 40 to 50 bushels of grain. Half pint bottle, 50c; pint bottle, 85c; quart bottle, \$1.50; 1/2 gallon, \$3.00; gallon, \$5.50. Not mailable.

Hammond's Grape Dust



To prevent mildew on roses, grapes and gooseberries. Lb. pkg., 35c; 5 lb. pkg., \$1.25. Add postage.



For destroying slugs, cabbage and turnip flea, currant worms, etc. Lb. pkg., 30c; 5 lb. pkg., \$1.00. Add postage.



Poor Paris Green is dear at any price. Effective against all chewing insects. Packed in 1/2's, 1's and 2-lbs. Owing to present conditions we are unable to quote prices. Write for prices, stating what size and quantity you desire to purchase. Not mailable.

SPRAY MATERIALS—Continued

Quassia Chips

Used with Whale Oil Soap for lice on cabbage, cauliflower, etc., and on fruit trees. Lb., 15c; add postage. At purchaser's expense: 25 lbs., \$3.00; 50 lbs., \$5.50; 100 lbs., \$10.00.

Sulphur

Powdered, lb., 10c, add postage; 100 lbs., market price.

Sulpho - Tobacco plant and Animal-Soap is a wonderful agent for the destruction of all bugs and insects. One or two applications will rid plants of the pests.

Destroys cabbage, potato and squash bugs, currant worms, lice, greenfly, mealy bug, red spider, etc. Is also valuable as a wash for dogs and other animals.

3 oz. cake makes 1½ gallons solution. Price, 15c; postpaid, 20c.

8 oz. cake makes 4 gallons prepared solution. Price, 30c; postpaid, 35c. Lb. cake, 50c; postpaid, 55c.

**Tobacco Dust**

For green and black aphids, fleas, beetles. Lb., 15c; 10 lbs., \$1.25; 25 lbs., \$2.50; 50 lbs., \$4.50; 100 lbs., \$8.00; add postage.

SPRAYING DIRECTIONS FOR THE PRINCIPAL FRUIT DISEASES

By F. D. Heald, Plant Pathologist, Experiment Station, Pullman, Wash. Condensed for use in this catalogue from Bulletin Series 1, Number 41.

INTRODUCTION

In the prevention or control of the diseases of fruits various practices must be put into operation. The grower should bear in mind that spraying is not a panacea for all troubles, but only one of the important measures for use against certain fungous diseases and insect pests.

FUNGICIDES

Chemical substances which check or prevent the growth of fungi and so protect plants from infection when applied to their surfaces are called fungicides. They are in reality fungous poisons. While many substances have been tried a relatively small number have come into general use. The most important fungicides used in spraying are lime-sulphur and Bordeaux mixture, the former being also valuable as an insecticide, and the latter an insect repellent.

HOW TO SPRAY

Success in preventing or controlling fungous diseases by spraying depends in a large measure upon the following:

1. The use of a spraying apparatus suited to the crop to be protected or to the trouble to be prevented.

2. The application of the spray mixture at the right time.

3. The selection and use of the proper fungicide.

4. Thoroughness of application.

5. The use of a high pressure whenever possible.

Apple

Anthracnose or Black Spot Canker—*Bordeaux mixture. 1. Immediately after the fruit is picked. 2. Three weeks later if fall rains begin early and the disease is severe. Prune out seriously infested small branches and cut out the dead bark from the cankers on the larger limbs.

Powdery Mildew—Lime sulphur. 1. Just after the petals fall. 2. Again in connection with the second spraying for codling moth. An earlier spraying before the petals unfold is suggested as of probable value. The spraying should be supplemented by the pruning out of seriously infested twigs during the regular pruning operations.

Scab—Lime sulphur. 1. Just before the blossoms open, that is, when the cluster buds have expanded and the petals show pink. 2. Again after the petals fall. 3. A third application ten days to two weeks after the second. 4. A fourth spraying may be necessary in regions or seasons having prolonged rains. In Eastern Washington two sprayings will generally be successful, while the humid sections of the west generally require the additional applications.

Pear

Anthracnose and Powdery Mildew may be controlled by the same spraying as for apple.

Pear Scab is more commonly found on the twigs than in apple and for this reason the first spraying should be made earlier. Spray as follows: Lime-sulphur. 1. Just before the buds swell in the spring. 2. Before the blossoms open. 3. After the petals fall. 4. About two weeks later. Additional sprayings in accordance with local conditions.

STONE FRUITS**Apricot**

California Blight—(See peach).

Cherry

California Blight—Lime sulphur. (See plum and prune for spraying program.)

Brown Rot—(See plum and prune for spraying program.)

Shot-hole or Yellows—Lime-sulphur or Bordeaux mixture. 1. Half way between the blossoming period and the maturing of the fruit. 2. Just after the fruit has been picked. 3. About one month after the second spraying.

Peach

Brown Rot—(See plum and prune for spraying program.)

California Blight—Lime-Sulphur. 1. About November 1, or as soon after the later fruit has been picked as possible. If one alone is not effective add the following: 2. Two or three weeks after the petals fall. 3. Again after an interval of two or three weeks. 4. If rainy weather favorable to the disease continues, a third spring application may be required.

Leaf Curl—Bordeaux mixture. Lime-sulphur. A single application in the spring before the buds begin to swell is effective. Fall spraying with lime-sulphur has also given good results in New York.

Powdery Mildew—Lime-sulphur. 1. Very soon after the petals fall. 2. At intervals thereafter, the number of applications and the intervals to be varied in accordance with the severity of the disease.

Plum and Prune

Brown Rot—For blossom blight: Lime-sulphur or Bordeaux mixture. 1. Just before the petals open. 2. Again just after the petals fall if the disease is severe.

Brown Rot—For fruit rot: Lime-pulphur. 1. About 3 or 4 weeks after the petals fall. 2. Later sprayings at intervals, until fruit is near maturity. The number of applications and the intervals between spraying should be governed by local conditions.

SMALL FRUITS

Blackberry

Anthraxnose—Bordeaux mixture. 1. Before the buds open. 2. Two or three weeks after the petals fall.

Leaf Spot—Bordeaux mixture. 1. When the buds are beginning to unfold. 2. At later intervals if necessary. Spraying for anthracnose will control leaf spot.

Cane Blight—(See raspberry).

Currant

Anthraxnose—Bordeaux mixture or lime-sulphur. Practice clean cultivation with destruction of fallen leaves and spray as follows: 1. Just before the leaves appear. 2. Again after the leaves have begun to unfold. 3. Later at intervals of two or three weeks until fruit is two-thirds grown if the disease is severe.

Leaf Spot—(See gooseberry).

Powdery Mildew—(See gooseberry).

Gooseberry

Powdery Mildew—Lime-sulphur. Practice careful pruning to thin canes and remove seriously mildewed shoots and spray as follows: 1. When the first leaf clusters have begun to open (leaf clusters $\frac{1}{4}$ to $\frac{1}{2}$ inch long). 2. Again after an interval of two weeks. Additional sprayings may sometimes be needed but the increased protection is not generally commensurate with the cost.

Leaf Spot—Bordeaux mixture or lime-sulphur (the same as for powdery mildew if severe enough to demand treatment).

Grape

Powdery Mildew—Lime-sulphur. 1. When the blossoms begin to open. 2. Later while grapes are still small, and if possible before mildew shows. In case the disease was severe the preceding season an earlier treatment should be given when the young shoots are 6 to 8 inches long.

Loganberry

(See blackberry diseases.)

Raspberry

Anthraxnose—(See blackberry and use same treatment if disease is severe).

Cane Blight—(Cut out and burn all diseased canes and try Bordeaux mixture). 1. Before growth starts. 2. After the plants are in foliage. Spraying has not given the desired protection.

Leaf Spot—(See blackberry).

Spur Blight—Bordeaux mixture. 1. When canes are 8 to 12 inches high. 2. Again two weeks later. 3. Again after a similar interval. 4. Immediately after picking. All old fruiting canes should be removed and burned as soon as fruit is harvested.

Strawberry

Leaf Spot—Not generally serious in Washington. Generally cutting and burning of the foliage after harvest is effective. If disease becomes severe use Bordeaux mixture.

Powdery Mildew—Not generally serious. If troublesome use sulphur spray, either liquid or dust.

SPRAYING DIRECTIONS FOR ORCHARD INSECTS

By A. L. Melander, Entomologist Agricultural Experiment Station, Pullman, Wash. Condensed from Bulletin Series 1, No. 39 and 54.

Poison Stomach Sprays for Chewing Insects

(Coat the plant, not the bug. Must be eaten to be effective. Intended for caterpillars, worms, slugs, grasshoppers or beetles which devour the foliage or eat into the fruit. Valueless for sap-sucking insects, like aphids, thrips, mites or leaf hoppers.)

Arsenate of Lead—Arsenate of lead, paste (poison), $2\frac{1}{2}$ pounds. Water, 100 gallons. For newly hatched or very small insects it is not necessary to use it stronger. For old or very resistant insects use double the quantity or more. Smooth the paste thoroughly with a little water before diluting. Arsenate of lead powder is twice as strong as the paste. Do not use arsenate that feels gritty or that settles rapidly. Keep agitated while spraying.

Poison Bait—Paris green, white arsenic, 1 pound. Shorts, bran or alfalfa meal, 30 pounds. Mix dry, and season with either four lemons or oranges ground through a meat chopper, or one or two quarts of molasses, or one pound of salt. Then add enough water to form a mash and scatter on the ground where required. Do not put directly on the plants. If it is deemed necessary to put the bait on the foliage substitute arsenate of lead powder for the other poison. For cutworms, grasshoppers, crickets, flea beetles and slugs. Of no value against wireworms.

Standard Bordeaux—This standard fungicide is usually a good repellent for leaf-eating insects because of its metallic taste. Useful for grasshoppers, flea beetles and cutworms.

Arsenate of Lead—Codling Moth—1. The Calyx Spraying Is by Far the Most Important Application of the Season... a. Most worms, both early and late, seek to enter the fruit through the calyx end and can be reached only by this spraying. b. By checking the first brood it prevents to that extent the second and third broods from coming into existence and thus automatically reduces late infestation. c. Paradoxical though it may seem, it is the best treatment to prevent side worms, stings and windfalls at harvest time, but should be followed up by thinning the fruit for worms during the time of the first brood. d. It is the only application whose effects persist undiminished through the season. e. Practically it destroys more worms than all other possible sprayings combined, and when properly given has often proved sufficient treatment for the season. f. If poorly applied, later sprayings must be depended on and no amount of later spraying can make good the first neglect.

2. Late Sprayings Are Always Disappointing —a. They are hard to time correctly. b. At best they reach only the relatively few worms that do not find the calyx end. c. They never prevent all stings. Side worms are apt to reject their first nibblings of apple skin and thus unpoisoned enter the fruit even heavily sprayed. d. It is impossible to give and keep a thorough coating of spray poison on the growing waxy apple skin; hence some side worminess always results. e. Increasing the strength of the spray or the number of applications will not abolish stings and side worms.

CONTACT SUFFOCATING SPRAYS FOR SAP-SUCKING INSECTS

Summer Smother Sprays—(Intended for those insects that live exposed but that do not eat holes in foliage, such as aphids, scale insects, mealy bugs, thrips, mites, plant-bugs and leaf-hoppers.)

Nicotine, or Tobacco Spray—Sulphur—Fine—ground sulphur flour is sometimes used as a dust spray, either alone or diluted with equal parts of hydrated lime. As a liquid spray stir 2 or 3 pounds of sulphur into a glue solution containing 1 pound of common glue dissolved in a gallon of boiling water, and dilute to 40 gallons. Mainly intended for mites.

PRACTICAL POINTERS

There is no single remedy for all plant troubles. First determine what you must spray for and then use the formula that fits your case. There are many troubles that can not be benefited by spraying, but require special treatment.

Distinguish between insect injury and fungous disease, and between the work of chewing and sucking insects.

Do not try to improve on the formulas by adding other ingredients or by using the sprays stronger than recommended.

Arsenicals are stomach poisons and will not kill sap-sucking insects.

Fish Oil Soap

For hop louse and green aphids. Bar, 20c; add postage. At purchaser's expense: 25 lbs., \$3.75; 50 lbs., \$7.00; 100 lbs., \$13.00.

Woodlark Squirrel Poison



Requires no mixing preparation—always ready for use. When you buy demand the best. Get the "Woodlark" brand. Lb., 45c; 10 lbs., \$4.25; 25 lb. pail, \$8.50. Not mailable.

KILMOL—Squirrelgophene

Kilmol is the name given to a recent discovery made by the United States Government. This is used for the extermination of squirrels and gophers and results obtained are 100 per cent efficiency. Careful tests under Government supervision have proven that Kilmol is the most effective and economical exterminator that has yet been discovered. The cost of clearing your field of these pests averages from 18 to 28 cents per acre.

The gas made by vaporizing Kilmol on a waste ball is much heavier than air and settles

to the bottom of the burrow. Only a small amount escapes even though the surrounding ground be full of cracks. It is practical to use Kilmol.

Gallon, \$2.75; 5 gallons, \$10.00. Not mailable.

Waste Balls

DIRECTIONS—Put one hundred and twenty waste balls in a bucket, and pour over them one gallon of Kilmol. Use one waste ball to each burrow. After a lapse of from three to five minutes ignite the gas in the burrow with a match or torch. Cover the opening with dirt, packing it closely to prevent the escape of the poisonous fumes.

Another method is to roll the ball into the burrow, and close the opening tightly without exploding. This is used when the ground is dry and there is danger of fire. By the firing method the efficiency is from 98 to 100 per cent. Without exploding, 95 to 98 per cent.

Kilmol is the only liquid that will give this percentage of efficiency. No other material will give more than from 75 to 85 per cent. The 15 to 25 per cent that are not killed necessitates going over the land at least twice and often three times. Once over is sufficient when Kilmol is used. 100, \$1.00; 500, \$4.50; 1,000, \$8.50. 100 waste balls weigh 3 lbs. Add postage.

TREE TANGLEFOOT

To protect trees against climbing insect pests in a simple, economical and effective way, use Tree Tanglefoot—a sticky substance applied directly to the bark of trees. One application remains sticky three to four months fully exposed to the weather. Easily applied with a wooden paddle. One pound makes a band 8 to 9 feet long. No mixing, always ready for use. Will not injure trees. Lb. can, 50c; 3-lb. can, \$1.50; 10-lb. can, \$4.50. Mailing weight, 2, 4 and 11 lbs.; add postage.



Inland Fruit Ladder

Full rodded. Wide spread at bottom. All steps over 8-foot lengths are trussed.

Rails $\frac{1}{4}$ x 2 $\frac{1}{2}$ ins.

Steps, $\frac{1}{4}$ x 2 $\frac{1}{2}$ ins.

Weight about 2 $\frac{1}{2}$ lbs. to the foot.

Following sizes kept in stock for prompt shipment:

6-ft., bot. spread, 30 ins.

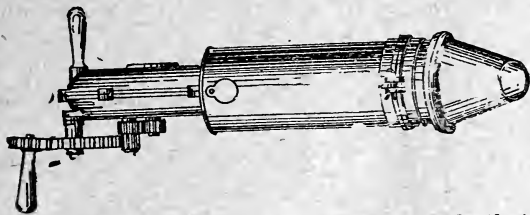
8-ft., bot. spread, 35 ins.

10-ft., bot. spread, 40 ins.

12-ft., bot. spread, 43 ins.

Price, 60c per foot.

CHEMICAL SQUIRREL TUBE



The greatest exterminator of all animals that burrow in the ground.

The chemical squirrel tube is endorsed by the Pullman College and Moscow University.

The main secret of this Smoker is the inner tube, which allows the machine to remain comparatively cool, and the force draft from the high-speed fan direct into the mouth of the hole gives a constant pressure of a continual flow of poisonous fumes. Take a blind hole or one that has only one opening and the result is a continuous flow that will cause a circulation, whereas a pump would cause a stagnation of the fumes and air. Its work is rapid and its effects are sure. Experiments have proven that squirrels and gophers expire almost instantly when they come in contact with the deadly smoke or gas.

DIRECTIONS FOR USE—The chemical used is carbon bisulphide. Fill tube two-thirds full of old sacks or any kind of waste, saturate with chemical, and blow fumes in the hole.

DO NOT LIGHT, AS IT WILL EXPLODE—For smoking, old sacks or dry manure has no equal. With about one pint of sulphur to each load this can be used with very little cost to the farmer.

Fifty cents' worth of sulphur will clean 100 acres of badly infested land.

Fill in all holes that smoke escapes from.

If directions are followed success is sure.

Price, \$15.00.

CLOVER LEAF FRUIT PICKING BAG



Two things are desired in picking fruit: First, safety of the fruit; second, speed in picking. The Clover Leaf Picking Bag combines both.

Constructed of heavy canvas with a spring steel frame at the top, the opening in which the fruit is placed, is large. The lower end of the bag folds squarely back to the steel frame at

the top. The lower portion of the sack being held securely by means of an ingenious fastener attached to the steel frame.

When one wishes to empty the filled sack, it is but the work of a moment to release the cords from this fastener and the fruit may then be gently deposited in the boxes, through the now open lower end of the sack. Two broad shoulder straps insures comfort to the picker even when the sack is full. Both of the pickers' hands are free for his work. He can work faster and with greater comfort than with other picking devices.

Price, \$2.00. Weight, 3 lbs. Add postage.

INLAND FRUIT PICKING BAG

The load is carried from the shoulders by heavy halter web that will not curl, and in this position gives ease and comfort to the picker. A strap around the waist keeps it in position. The mouth of the bag is always open, being constructed with a novel shaped metal frame so that the hands of the pickers can go with the fruit to the bottom of the bag. Bottom of the bag is opened instantly by the snap and fruit is emptied out without bruise or injury.

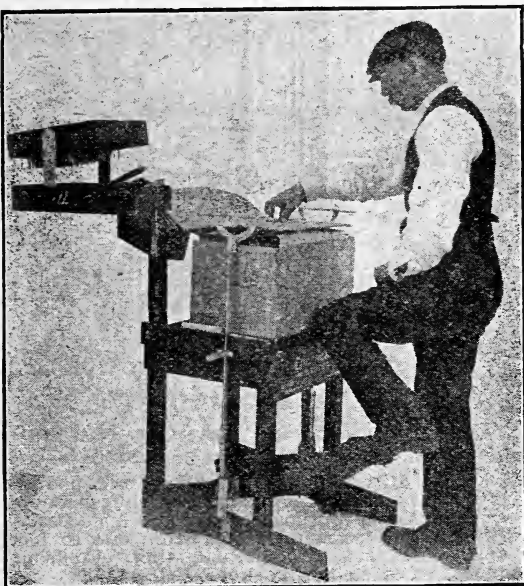
When snapped at top loop the bag will hold one-half bushel; when snapped at bottom loop as shown in cut the bag will hold about a bushel.

Body of bag is made of 10-ounce canvas double stitched with waxed harness thread and reinforced with leather riveted at wearing parts.

Price, \$2.25. Weight, 3 lbs. Add postage.

Write for definite price on both picking bags, as these quotations are subject to change.

Edgemont Lid Press



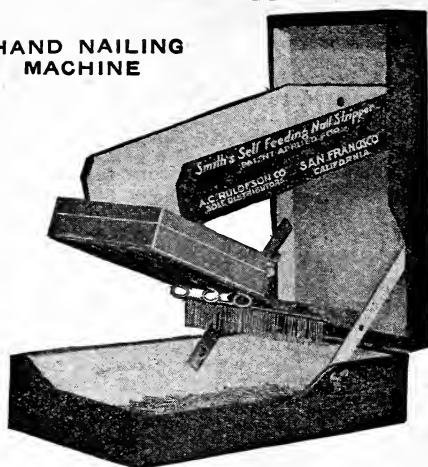
All fruit growers sooner or later feel the need of a good, durable and handy LID PRESS.

SAVING TIME is just as essential in the packing house as it is in the shop or factory. A number of special features of the Edgemont Lid Press are time savers, which are quickly appreciated by the user. The stripper nail box delivering the nails all pointed down; the placing of the lids in position endwise by the clamping yoke; the little spring attachment holding the cleat in place, all tend to make nailing an easy, quick and simple operation. Price, \$22.50.

Write for price.

Nail Strippers

HAND NAILING MACHINE

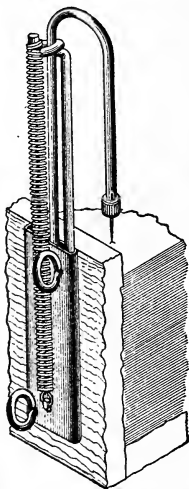


Self feeding. No time lost in keeping full. Adjustable. Handles all size nails from 2 d. to 10 d.

Smiths (cut). Price, \$10.50. Weight 8 lbs. Add postage.

Edgemont. Price \$6.50. Weight 6 lbs. Add postage.

Paper Holder



A model of simplicity, handiness and usefulness. Saves paper and increases the speed of the user. An all-purpose holder and a necessity for every fruit packer. Holds from one to 1600 wraps. Neat, rust-proof and lasting. Folds up and can be carried in pocket. Price \$1.00.

Points in Pruning

1. Proper pruning gives more and better fruit.
2. It costs less to spray and pick a well pruned tree.
3. All varieties are not pruned alike.
4. Heavy pruning tends to increase wood growth, and may be used to rejuvenate a run down tree.

5. Light pruning tends to increase fruit production.

6. The growing habit of trees varies with age.

7. Watersprouts are usually the result of heavy pruning. Those sprouts near the base of the scaffold limbs may be tipped back and caused to produce fruit.

8. A limb grows more from the tip buds than from the aerial buds.

9. Fruit may be thinned by pruning.

10. Pruning wounds need not be painted in Colorado.

11. Keep the top of the tree somewhat open. Light helps to make extra fancy fruit.

12. If the buds on your peach trees have been killed and the fruiting wood is in the upper third of the top "dehorn" your trees back heavily to limbs one inch in diameter.

13. Learn the principles of pruning, the details will vary with the tree.

14. Common sense and good judgment will help a great deal.—Professor Longyear, Colorado Agricultural College.

PRUNERS

SEARIGHT—This has a compound lever head and is made with a hook and side lever. It is calculated for heavy work and will cut a limb up to 1½ inches in diameter. Instead of running the rod connecting the knife lever along one side the pole to a handle lever, the handle lever has been placed on the opposite side, which allows the rod to cross the pole. As a result one-half of the strain is thrown on one side of the pole and one-half on the other, which gives about double strength.

The strength, durability and easy cutting qualities of these trimmers will appeal to both the merchant who handles them, and the man who may have the pleasure to use them.

Price, 12 ft., \$3.00.

Waters' Improved

WATERS' IMPROVED—Indispensable in pruning tall trees. Cannot go by mail. Purchaser will have to pay freight or express charges. Price, 6 ft., \$2.25; 8 ft., \$2.50. Extra blades, 25c each.

WATERS SPECIAL—This Pruner is made on the same principle as the Waters' Improved, but is much stronger in every way, being designed for use where the regular Waters' Improved was too light to stand abuse. The hook or head of the Waters' Special is made of malleable iron, having ribs on the outside giving it great strength; it also laps around the pole about two inches farther down than the Waters' Improved. The knife or blade is made of heavier steel and is fitted with a strong coil spring that carries the blade back so it is always in a cutting position. Price, 12 ft., \$3.50. Extra blades, 30c each.

Bastian Pruner

The powerful lever of the Bastian Pruner enables one to do the same work in half the time and with half the labor that would be required with old-style Pruners.

Blades are of finished Damascus steel, very strong, and hold their cutting edge. Simple in construction, light, strong and durable.

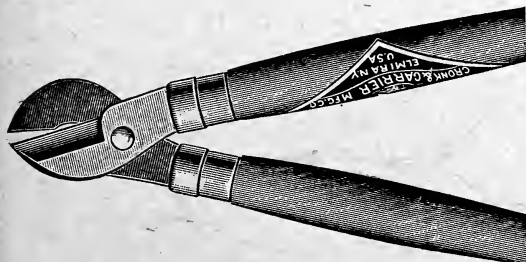
Price, 6 ft., \$1.50; 8 ft., \$1.75; 10 ft., \$2.00; 12 ft., \$2.25. Handle Slides, 30c each. Extra blades, 30c each. Blade Screws, 10c each.

SECTIONAL PRUNER—This is made of the same high grade material, and by the same skilled workmen as the regular Bastian Pruner, but is made adjustable so that it can be converted easily into a 6, 9, or 12 ft. pruner. Price, \$3.25.

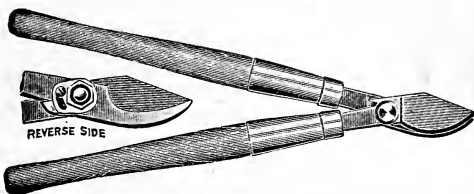
Our field seeds
are all tested.

Samples
furnished.

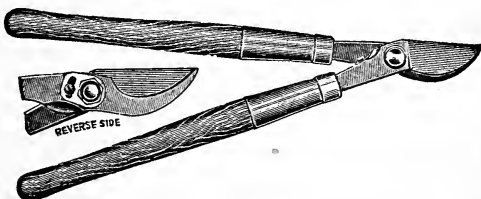
Cronk's Wood Handle Pruning Shears



Steel ferrule. Notched hook (patented), prevents slipping, gives greater leverage, and makes cutting easier. No. 9½, 26 inches. Weight, 3 lbs. Price, \$1.75; add postage.



FRESNO PATTERN NO. 126—Forged from high grade tool steel, finely tempered. Solid wrought steel ferrule. Has lock nut and can not work loose and ruin the shears. Riveted handle. Strictly high grade and has no equal. 26 inches, weight 3 lbs. Price, \$2.75. 30 inches, weight 4 lbs. Price, \$3.00. Add postage.



CRONK'S EXTRA HEAVY NO. 226—Forged from high grade tool steel and finely tempered, wrought steel ferrule polished. Has the Cronk patent locknut and can not work loose and ruin the shears. Riveted handle. 26 inches, weight 3 lbs. Price, \$3.00. 30 inches, weight 4 lbs. Price, \$3.25.

Pruning Compound



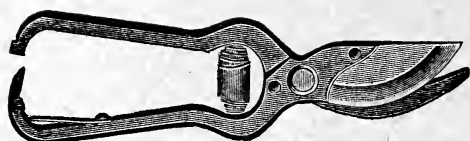
For use on trees, shrubbery, etc., to stop bleeding of sap after pruning, and prevent worm-boring. Used extensively by large nurseries and fruit growers.

It effectually seals the surface and adheres satisfactorily to surfaces which are moist with sap, and will not wash off with the weather. In every respect it will be found more satisfactory than tar and other mixtures. Color, dark green olive.

Directions: Best results are obtained by applying Pruning Compound at the time pruning is done. Quarts, 70c; gallon, \$2.25. Not mailable.

Grafting Wax

One-fourth lb., 15c, postpaid, 20c; ½ lb., 25c, postpaid, 30c; 1 lb., 45c, postpaid, 55c.

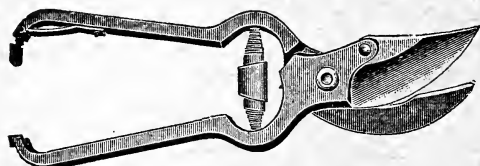


17—Length, 9 inches. Detachable polished tempered steel blade. Price, \$1.15; postpaid, \$1.20.

GRAPE OR THINNING SHEARS



101—Length, 6½ inches. Made extra heavy. Price, 65c; postpaid, 70c.



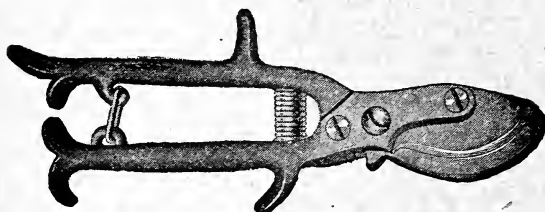
27—Length, 9 inches. Detachable blade of cutlery steel. Notched hook, forged from tool steel, full polished and tempered. Price, \$2.00; postpaid, \$2.05.



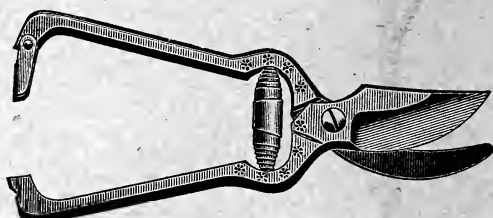
203—Same as 101 but longer and has volute spring. Price, 75c; postpaid, 80c.

SPRINGS

Volute springs for hand prunes. Each, 15c.
Volute springs for thinning shears. No. 203. Each, 15c.

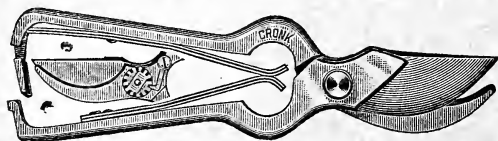


No. 200—Henry pattern. Cast handles. Steel blade. Length, 8½ inches. Price, 60c; postpaid, 65c.

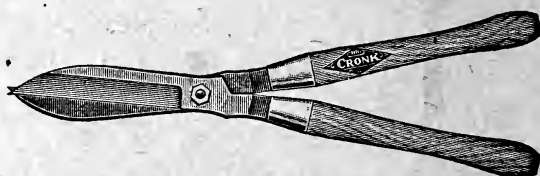


250—Forged from best cutlery steel. Nickel plated, 7 inches. Price, \$1.75; postpaid, \$1.80.

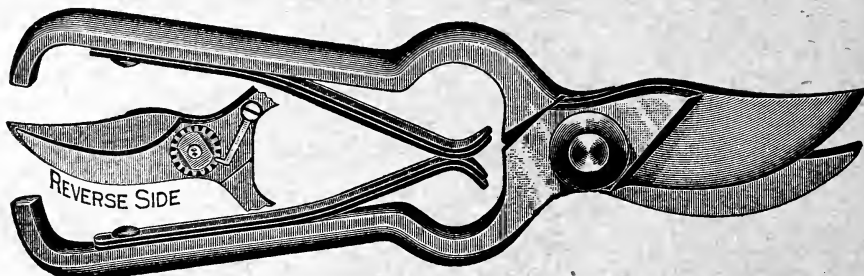
Shears



600—Forged from best cutlery steel, full polished, 8½ inches. Price, \$2.50; postpaid, \$2.55.

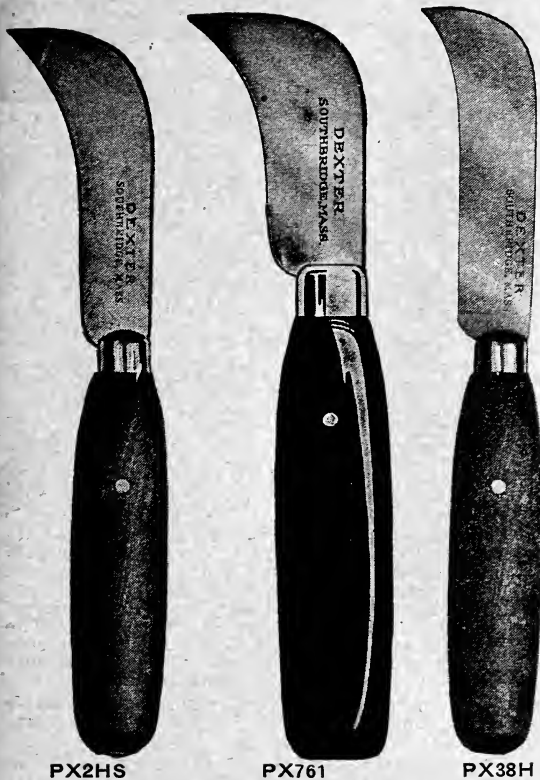


HEDGE—Polished tool steel blades; polished hardwood handles; cut 8 inches. Notched in order to cut larger branches. Price, \$2.50; postpaid, \$2.60.



No. 700—Ratchet nut. Brass spring. Extra quality steel. Length, 8½ inches. Price, \$3.00; postpaid, \$3.05.

Knives



PX2HS

PX761

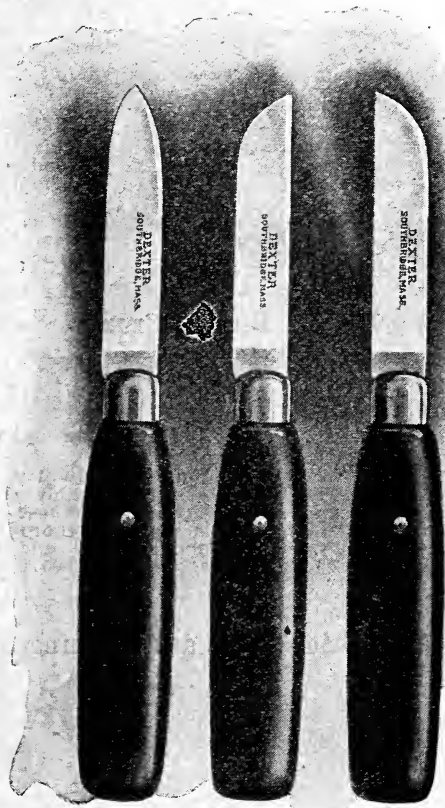
PX38H

PX38H—60c; postpaid, 65c.

PX761—50c; postpaid, 55c.

PX2HS—60c; postpaid, 65c.

All of the blades are made from a very high grade English crucible tool steel; they are given the proper temper for the particular work required; they all are ground sharp and hand honed, leaving them ready for use. The handles are oval rubberoid of a shape to fit the hand. The ferrules are of heavy construction, oval, nickel plated, and the blades are pinned in handles, preventing any possibility of their coming out or becoming loose.



2½V

2½J

2½Z

Grafting, No. 2½V—50c; postpaid, 55c.

Budding, No. 2J—50c; postpaid, 55c.

Budding Spear, No. 2½Z—50c; postpaid, 55c.

Saws

No. 11. Tapered Pruner



We have selected the following saws because they are the highest grade saws we could procure. Please note that they are all made of the finest quality of Silver Steel.

In common with other manufacturers, E. C. Atkins & Co. make these same saws in different grades. The different grades of saws are made from different grades of steel.

The prices are higher than the ordinary saws offered for sale, but they are considered the most economical and best to use, because of the better service they render.

This is a very strong, rigid and popular style of saw. The frame is tapered so as to reach out of the way spots. It is made of high-grade crucible steel, ¾ of an inch wide and 3-16 of an inch thick. The blade is 16 inches long and is fastened to the frame by a turnbuckle arrangement so that the blade may be used at any angle. Price, \$2.25; postpaid, \$2.35. Extra blades, 40c; postpaid, 45c.

No. 10. Tapered Pruner



The frame is made of extra high quality spring steel, $\frac{5}{8}$ of an inch wide and $\frac{1}{4}$ inch thick. The blade is extra high-quality Pruning Saw steel, 16 inches long. The handle is ATKINS new easy grip pattern and is in popular favor wherever used. It is made of beechwood thoroughly seasoned, highly finished and polished on the edges, fastened to the frame by two brass screws. The blade is adjustable so that the Saw will cut at any angle. Price, \$2.50; postpaid, \$2.60. Extra blades, 40c; postpaid 45c.

No. 3. Duplex Pruner



The blade is made of the finest quality Silver Steel and will receive a remarkably sharp cutting edge and retain it for the longest possible time. The handle is made of thoroughly seasoned applewood, highly polished and finished. Length, 18 inches. Price, \$2.00; postpaid, \$2.10.

No. 1. Atkins Table and Pruning Saw

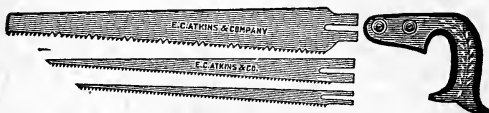


This is one of the older patterns and is still in popular favor in many sections of the country. The blade tapers from 2 $\frac{5}{8}$ inches to 1 inch, and is made of genuine Silver Steel. The finest steel that has ever been used in saw blades. The handle is of hardwood, finely finished, polished edge. Blade is 18 inches long. Price, \$1.90; postpaid, \$2.00.

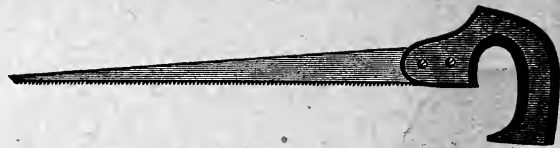
No. 13. California Pruner



This saw is used almost exclusively for pruning grape vines. The blade is of the finest quality Silver Steel which is superior to any other saw steel. The curved blade makes cutting easy. The handle is of highly finished applewood. Blade is 14 inches long. Price, \$1.50; postpaid, \$1.60.

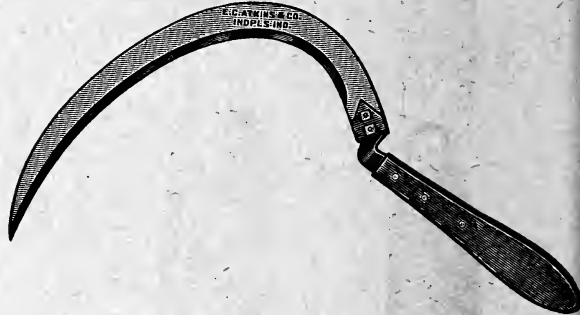


We recommend this set for general purposes. It consists of a keyhole, compass and pruning saw blade and handle as illustrated. Price, \$2.25; postpaid, \$2.35.



No. 4—Saw screws, beech handle, varnished edge. 12 and 14 inch lengths. Price, 75c; postpaid, 85c.

Atkins Perfection Grass Hook



The blade is of Silver Steel and will hold its edge much longer than the material usually placed in similar tools. It is extremely light and does not tire the wrist. Fitted with a hardwood, easy grip handle, securely fastened to a malleable casting by strong rivets. The curve of the blade is such that the entire cutting edge is constantly in use. Corners and out-of-the-way spots may be easily reached.

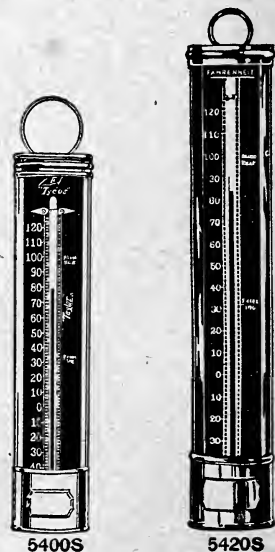
The handle being offset, saves the knuckles from becoming bruised. Price, 75c; postpaid, 85c.

GRASS SHEARS—For trimming ground, flower beds, etc. Weight, 1 lb. Each, 75c; postpaid, 80c.

Beeswax

Price, 60c; postpaid, 70c.

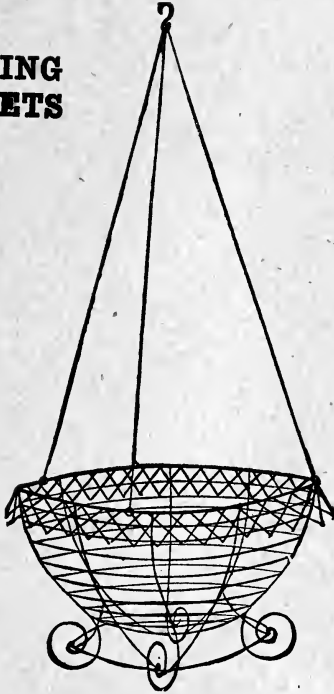
Greenhouse Thermometers



No. 5400S—Standard grade, 10 inches, black japanned, heavy tin case. Spirit. \$2.00; postpaid, \$2.10.

No. 5420S—Selected grade, 10 inches, black, japanned tin case. Spirit. \$1.25; postpaid, \$1.35.

WIRE HANGING BASKETS



Painted Green.

You no doubt have noticed that most of the hanging baskets on the market have the parallel wires on the sides laced to the ribs by means of a very light lacing wire. This wire soon rusts out, and then the basket falls to pieces.

Please note the construction of the basket here shown and you will readily see that the different wires are electrically welded together, thus forming a solid construction, making all parts equally durable, and thus making it impossible for it to fall apart.

12-inch, each, 75c; 1/2 doz., \$4.00; doz., \$7.50.

14-inch, each, 90c; 1/2 doz., \$5.00; doz., \$9.50.

Mailing weight, each, 12 inch, 2 lbs.; 14 inch, 3 lbs.; add postage.

Hot Bed Thermometers



No. 5981—Standard Grade, 16 inches, wood frame with handle, brass pointed ferrule, brass oxidized scales, white filled figures and graduations. \$2.75; add 10c for postage.



No. 5982—Medium Grade, 14 inches, wood frame with handle, brass pointed ferrule, glass cylinder, hand written paper scale. \$1.75; add 10c for postage.

We use the utmost care in packing all glassware, and will not be responsible for its arrival in good condition.

Raffia

Natural color, for nursery work. Price, lb., 40c; postage extra.

Poultry Supplies

The following facts are given by T. E. Quisenberry, president of the American Poultry School, Kansas City, Mo.

Poultry Business Profitable.

Wheat, corn and poultry feeds of all kinds are going down in price, yet eggs are certain to remain as high or higher than they have been these past years.

Breeding.

Hens that are not properly housed and handled, and which are not comfortable and happy, of course, cannot be expected to produce their maximum number of eggs. Breeding, however, determines the possibilities of any hen.

Selection.

The rules that govern selection are simple. For instance, a hen that is slow to feather is lacking in vitality. You cannot stuff her and make her lay eggs. She is by nature a weakling. Hens do not lay eggs because they want to; they lay eggs because they are strong and vigorous and egg-laying is a natural result which they cannot avoid. That tendency must be bred in them.

Market those which have been slow to feather or seem to lack vitality.

Keep the pullets which mature quickly and start laying first. Those which start laying when less than 200 days old will be the best layers if they have the right care.

Keep the late moulters.

Keep the birds with rather large, plump combs and wattles.

Keep the hustlers and heavy eaters that go to bed late with full crops.

Birds that have long toe-nails and show no signs of being workers are usually unprofitable.

Feed.

When a poultryman has made a careful selection as above, he then has a foundation on which to build. The next important thing is the question of feeding.

Sprouted Oats.

One method of supplying green feed and also of producing a very cheap feed is to sprout oats. If you properly equip yourself for it, you will be surprised at the amount of food that can be grown by this method. After one bushel of oats are sprouted it will make over two bushels of feed.

Value of Moistened or Cooked Foods.

We have had excellent results from the use of moistened mash. Much more moistened food is used in England than in this country. Our experiments have led us to believe that we can increase the number of eggs and also increase the size of the eggs a trifle by the use of moistened mash fed each afternoon to the laying hens. It also seems to stimulate growth and quick development in the young stock. Never feed it sloppy, but just moist and crumbly.

Yolks and Whites.

If you are feeding your hens a mixture that produces 100 yolks for every 50 whites, then it is possible for the hen to lay only 50 normal

POULTRY SUPPLIES—Continued

eggs. The following table shows the number of yolks and whites produced by the average hen from one hundred pounds of the different kinds of feed:

GRAIN.	Yolks	Whites
Corn	255	134
Kaffir Corn	254	125
Wheat	234	182
Cow Peas	189	305
Oats	195	155
Barley	203	145
Buckwheat	178	128
Sunflower Seed	257	268
Rice	220	125
Milo Maize	256	178
Feterita Grain	164	191
Soy Beans	219	603
Millet Seed	280	195

MILL PRODUCTS.

Wheat Bran	155	205
Middlings	205	212
Corn Meal	260	135
Ground Oats	195	155
Alfalfa Meal	133	205
O. P. Oil Meal	160	500
Cottonseed Meal	148	620
Rice Bran	215	181
Rice Meal	249	197
Gluten Meal	194	591
Low Grade Flour	215	247

MEAT FOODS.

Beef Scraps	106	1107
Fish Scraps	87	806
Dried Blood	19	871
Fresh Cut Bone	196	336
Blood Meal	230	430

GREEN FOOD (Forage).

Alfalfa	46	67
Clover	54	48
Corn Fodder, green	42	16
Cabbage	40	11
Rape	56	11
Corn Silage	42	15
Blue Grass, lawn clippings	40	88
Kale	20	40
Swiss Chard	20	40

VEGETABLES, ROOTS, ETC.

Apples	62	12
Mangel Beets	19	18
Mangel Beet Leaves	28	16
Onions	11	25
Potatoes	55	15
Turnips	26	16
Pumpkins	22	23

Yolks Whites

Dried Beet Pulp	205	148
Peanuts	336	446
Stale Bread	190	131

DRY FORAGE.

Alfalfa Hay	140	180
Clover Hay	132	113
Cow Pea Hay	114	71

LIQUIDS.

Whole Milk	44	60
Skimmed Milk	22	52
Buttermilk	22	65

We now have in course of preparation an Egg Mash and a Scratch Feed that when fed in equal proportions will make a perfect Balanced Ration in the production of eggs as per above table.

Causes For Infertile Eggs and Death.

Infertile eggs are responsible for much of the loss at the time of incubation. A great many things may be responsible for the infertility, and the reasons for same can be summed up as follows:

Breeders that are overly fat.

Lack of exercise.

Breeding stock of low vitality.

Insufficient green food.

Extremely old or decrepit breeding stock.

Breeding from birds that are young and immature.

Excess of females to one male.

Lack of proper feed.

Unsanitary quarters.

Use of poorly constructed and poorly ventilated houses.

The death of chicks in the shell may be caused by:

Keeping eggs at too high a temperature before incubation.

Great variations in temperature.

Low vitality in the breeding stock.

Keeping eggs too long before incubation.

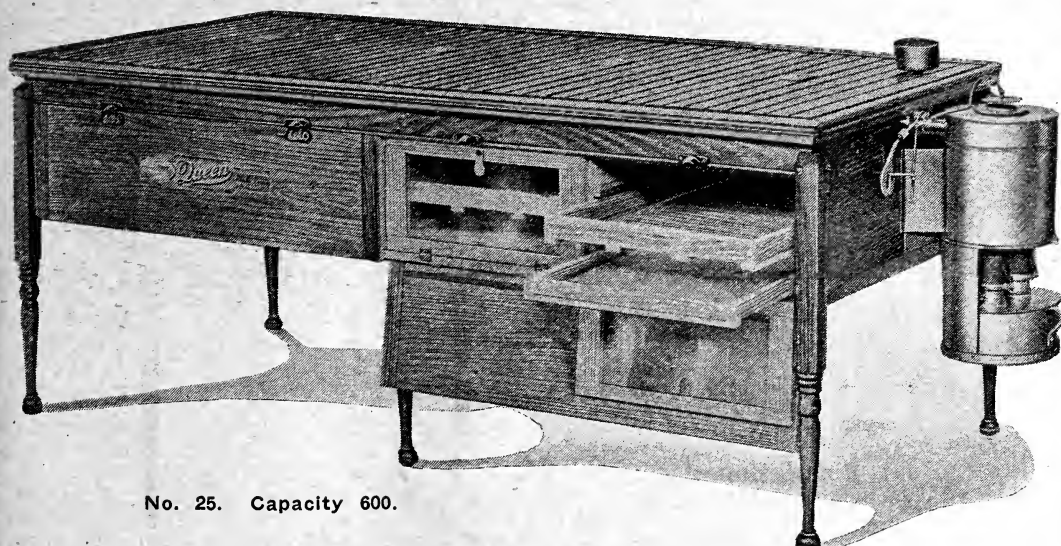
Improper methods of incubation.

Hundreds of people write to know why the chicks die in the shell from the 18th to the 21st day. It may be caused by any of the above, but in our own opinion is more generally caused by lack of vitality in the breeding stock. Sometimes it is caused by insufficient moisture, which causes excessive evaporation of the egg. Sometimes we have too much moisture, and the chick becomes so large that it is cramped for room, making it impossible for it to crack the shell.

Write us when in need of information. We want to serve you. Use our free information bureau.

Have received a straight car of Queen Incubators and Stoves for our Spring trade.

Incubators



No. 25. Capacity 600.

Queen Hot Water Incubators

For fifteen years Queen Incubators have been regarded by poultrymen as the high-grade, moderate-priced line of America. The manufacturers of the Queen have always built the very best incubator that could possibly be built. They could add more expense to the machine, but could not build a better incubator.

Every manufacturer claims his machine is the best. The most extravagant claims are often made for the cheapest and most flimsy machines. Unfortunately, there is at present

no law to protect the public against irresponsible exaggeration, and it is wise for you to make some investigation into the quality and reputation of an incubator before you spend your money for it.

Don't buy any incubator until you check up specifications very carefully and compare them with the Queen. Still better, look over the Queen at some dealer's store, and then compare Queen specifications with those of any other incubator on the market.

Queen Chicks Live and Grow

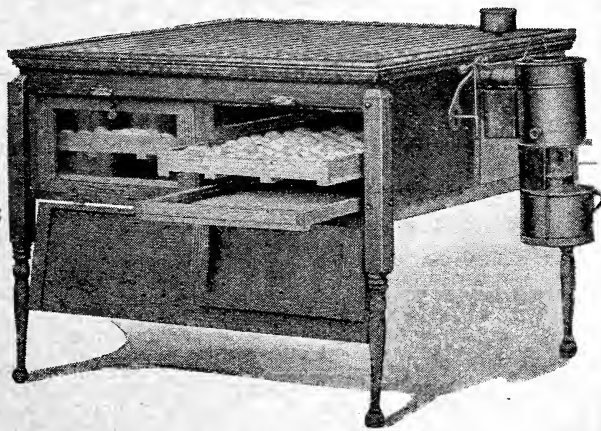
Queen Incubators are famous the country over for big hatches of strong, healthy chicks that live and grow. The Queen is accurately regulated, keeping the temperature just right for the hatching chick. No hot and cold changes to weaken the chick's system. The Queen is properly insulated—two layers of wood and one of corrugated strawboard, with dead air space. This also helps to maintain an even temperature for the entire hatching period. Both Queen walls are built of genuine California Redwood.

The Queen Hot Water System

Eliminates the injurious drying out tendency found in most hot air incubators and provides a soft, uniform heat over every part of the egg chamber that is most natural for the hatching eggs. This form of heat under ordinary conditions makes unnecessary the application of moisture, because in the Queen the circulation of water through the radiator neither adds nor takes away the moisture, and air is supplied to the eggs in a natural form as under a mother hen.



No. 2. Capacity 135.



No. 4. Capacity 275.

Insulation—Or Keeping the Temperature Even

Insulation is what keeps the water in the Thermos bottle hot or cold, whichever it may be. It is packing that prevents the easy entrance or escape of heat.

Good insulation means a proper maintenance of uniform heat throughout the hatching period, less fuel and stronger chicks. Poor insulation means a fluctuating temperature, more fuel and weak chicks.

The Queen is doubly insulated. First, double walls of California redwood is used, thus forming a dead air space. Second, corrugated strawboard is used between the wooden walls.

Boiler and Radiator

Of the Queen heating system is made of copper (not copperized tin) that has been rolled into sheets without heating, which gives added life, strength and ability to stand more wear and tear than the ordinary sheet copper, and is placed close to the inner top of the incubator. This form of placing allows the heat to reflect from the floor of the egg chamber and to more evenly affect the germ which always rises to the upper surface of the yolk.

Heat Regulation

This is a vital factor in incubation, for an incubator must not only be supplied with heat, but it must have exactly the required amount at all stages of the hatching period. In other words, the source of heat must be self-regulated and sure.

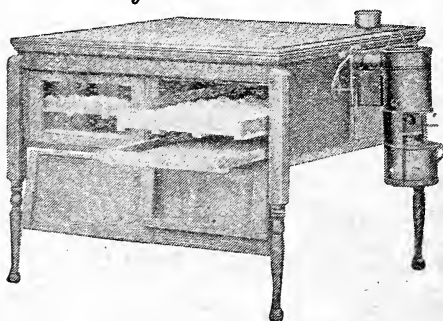
Why Redwood Is Used

California redwood is conceded by all to be the best wood for incubator construction, as it will not warp, split, nor absorb moisture or odors during use. It is a wood that insects seldom attack, because of an acid element the lumber contains, and being free from pitch, offers strong resistance to fire.

Sizes and prices:

- No. 1—85-egg size, \$30.00.
- No. 2—135-egg size, \$43.50.
- No. 3—180-egg size, \$51.50.
- No. 4—275-egg size, \$65.00.
- No. 5—400-egg size, \$77.50.
- No. 25—600-egg size, \$115.00.
- No. 35—800-egg size, \$150.00.
- No. 45—1000-egg size, \$180.00.

Style K Incubator



- No. 20—70-egg size, \$21.50.
- No. 21—130-egg size, \$35.75.
- No. 22—220-egg size, \$43.50.

Style K is made by the Queen Incubator Co., but is not of the same high standard as the Queen line, in material nor workmanship, nor do they embody all the principles that have made the Queen line so successful and famous.

However, they are good, substantial machines, built to sell at a lower price to people to whom price is an important consideration.

Style K Incubators are constructed of double-wall redwood. The top of the machine is lined with insulation. The heater and pipes are made

of aluminoid. The machine is equipped with the same expansion cup and thermometer as the regular Queen.

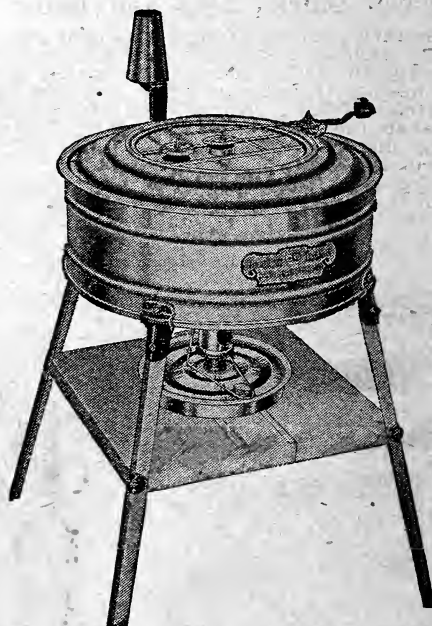
The regulator is the same as the Queen, except of lighter construction, and has a three-inch steel wafer.

Columbia Hot-Air Incubators



Are built to meet the wide-spread demand for large capacity lamp-heated machine that can be sold at surprisingly low prices and yet be guaranteed to do high-class work. Have wooden cases, attractively finished in dark green, with brass trimmings and double walls. Seamless-bottom lamp bowls, best quality brass burners, zinc and steel Standard Cyphers toggle-joint thermostat and same regulating equipment as used on higher priced machines. Fume-proof, forced draft heater, asbestos covered and metal banded. Automatic in ventilation and embodies diffusive principles. Roomy chick nursery under egg trays. Made in two sizes. 140 eggs, \$30.00; 250 eggs, \$40.00.

The Peerless Automatic Incubator



Small enough to give the greatest efficiency in hatching. Large enough to give the greatest economy in operation. Cheap enough so that any man or woman who wants to make money in poultry can afford it.

INCUBATORS—Continued

HEAT, MOISTURE, VENTILATION, ALL AUTOMATIC.

We all know the important connection between heat, moisture and ventilation in an incubator. To preserve an even and constant balance between these three vital features has been the great problem among incubator manufacturers.

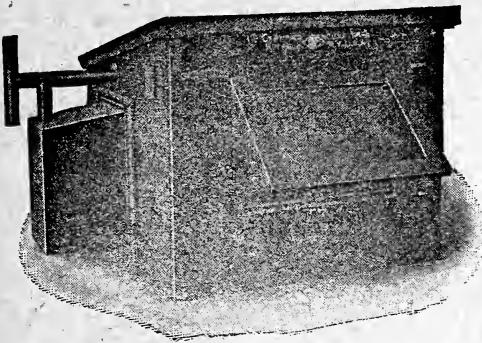
The heating system is a masterpiece of simplicity. The heated air is conveyed upwards through the egg chamber to the heat distributor. The heated air from the lamp never enters the egg chamber directly.

Moisture is supplied by an open water jacket which surrounds the heat flue. Thus center heat is eliminated and it is an absolute fact that the inside of the egg chamber is not a fraction of a degree warmer at the heat flue than at the center or outer edge.

The action of the regulator is governed by the expansion and contraction of a sensitive double wafer thermostat. There is only one adjustment—just simply turn the single adjusting screw and you set the thermostat.

The entire egg chamber is reached by simply lifting off the top and placing it on the holder provided for it.

Made entirely of metal with the exception of the glass top, through which the entire interior of the machine can be inspected without opening it. The thermometer rests just above the eggs and is plainly visible. Capacity, 66 eggs; price, \$11.00. Will not go by mail.

Style A Outdoor Brooder

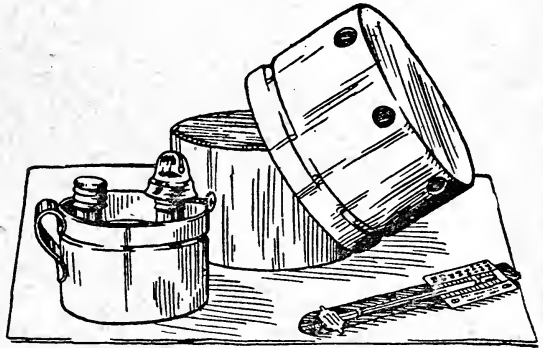
Dimensions: Floor space, 32x22 inches; height, 32 inches in front, 24 inches at rear. Capacity 75 newly hatched chicks. Price, \$20.00.

The Style A Outdoor Brooder is recommended for use of poultry raisers who feel that they do not wish to invest in the larger sized and more costly three apartment outdoor brooders. The Style "A" is equipped with the Cyphers Fire-Proof Brooder Heater and Standard Adaptable Hover. Top heat is used exclusively, thus giving the chicks free use of all space underneath the hover. The Adaptable Hover is self-regulating and self-ventilating, and provides a constant supply of fresh, warmed, pure air beneath the hover for the little chicks.

The double frame door of this brooder is of great convenience to the operator—the sill being on the level of the floor makes cleaning easy—while ample ventilation is secured, at the same time preventing rats, cats and other chick enemies from gaining access to the brooder. The outer door, hooked up part way, allows ventilation and prevents rain beating in.

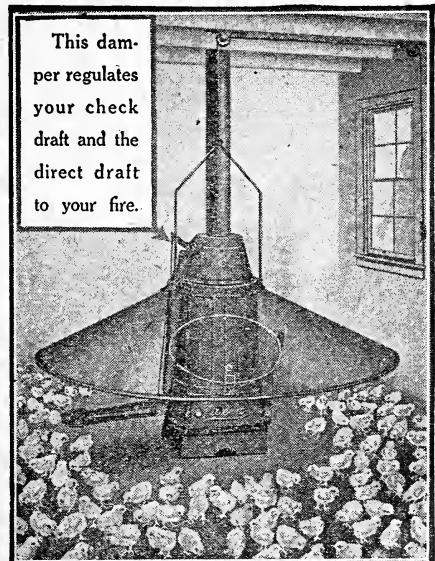
Common Sense Brooder Fixtures

To those who wish to make their own brooders, we highly recommend the "Common Sense" Brooder Fixtures. These fixtures include an upper and lower drum, Inland Safety Lamp and Thermometer. The construction of the brooder is simple and the air circulation perfect. For outdoor use the walls should be double and the roof included and covered with roofing.



Top Removed, Showing Location of Hover and Heat Retainer

Manner of Construction—First, put in a tight floor 9½ inches from the bottom of brooder. Then mark and saw out size of larger drum on this floor (using drum as pattern), 12 inches from center of side of brooder to center of drum. Secure drum in place, then nail one-inch cleats two feet square under and around the drum, cutting out a two-inch hole from cleat and side of brooder to allow air circulation. Nail the lower drum up on these cleats. Bore sufficient holes through two sides of brooder, under this floor, to carry off fumes and furnish air for lamp. For the hover nail thin boards together, making it two feet square. Around this tack oilcloth wide enough to reach floor when hover rests on drum. Set the lamp under center of drum. Price, \$6.00.

QUEEN BROODER STOVES

This damper regulates your check draft and the direct draft to your fire.

The Queen Brooder Stove is just what is needed to keep the house comfortable for the early chicks. It is the only Brooder Stove in

BROODER STOVES—Continued

which both fire and amount of heat are automatically controlled by one thermostat, and one connecting rod.

Damper indicated by arrow regulates the check draft and the direct draft to the fire. Gas controlled above deflector. No gas can escape below to injure chicks. Holds enough coal to last 40 to 48 hours.

The Queen is the Only Brooder Stove With Automatic Control of Both Check and Draft.

The Queen Colony Brooder Stove is made of highest quality iron castings that will wear and last indefinitely.

DRAFTS—There are no drafts on the smoke pipe of the Queen. The check rests on top of the stove and opens outward when fire is too warm, thus giving a gentle inflow of air to retard the heat. While the opening of the draft to increase the fire is located at the top of the stove, it opens into the fire at the base through an opening extending down the side to the bottom.

GRATE—Next to a good draft through the chimney, the principal secret of a good fire in any stove is a good grate that will free the fire from ashes properly and prevent clinkers. The grate in the Queen stove is the rocker type and strikes the fire at four points. This is far superior to any draw center or shaker grate, because it cleans the fire thoroughly, and by striking at four points will break up and remove all clinkers.

HOVER—The hover on Queen Stoves is collapsible and made of four pieces of galvanized iron. This hover comes knocked down, with holes punched and stove bolts attached, ready for putting together. By being collapsible, it enables you to save room when storing, and lessens the danger of damage, when not in use.

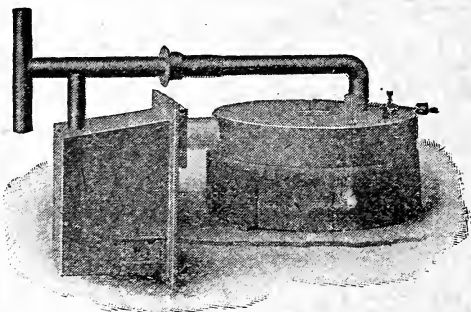
FUEL—The Queen burns any kind of fuel with equally satisfactory results. We recommend chestnut sizes in all kinds of fuel and hard or soft coal, coke, charcoal, or briquettes burn equally well.

GAS—There is no possibility of gas escaping below the hover to harm the chicks, because all drafts are located above the hover and are so arranged that all gas and smoke must go out through the smoke pipe.

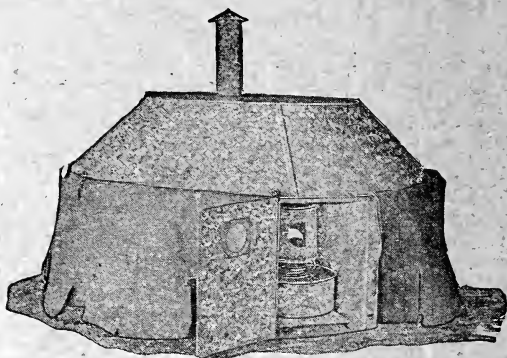
No. 1—500 chick size, \$25.50.

No. 2—1000 chick size, \$31.50.

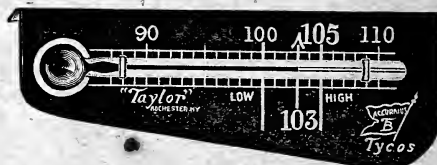
No pipes or elbows furnished with stoves. Pipes and elbows—50c each. Order as many lengths of pipe as you need, also elbow if needed, and add to price of stove.



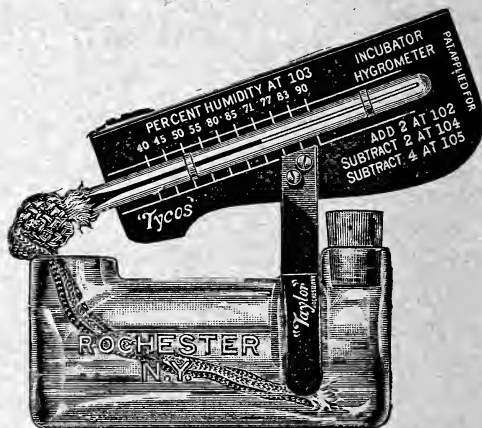
The Cyphers Adaptable Hover is self-ventilating and self-regulating. It supplies a continuous flow of fresh, pure, warmed air under the hover, and at the same time maintains a steady, uniform heat. It is "adaptable" to use in colony coops, in portable houses, in home-made brooder coops, such as goods boxes, plano boxes, and organ cases, as well as in large brooding houses. It is constructed entirely of non-combustible material. Capacity, 75 newly hatched chicks. Price, \$12.50.

Queen Perfection Hover

This is all that its name implies, and is of the same high standard as the Queen Incubator, and is the nearest to perfection of any hover that has yet been devised or put upon the market. Capacity, 150 chicks. Price, \$21.50.

Thermometers

The best incubators and brooders manufactured are worthless unless the thermometers therein are correct. The thermometers here listed are guaranteed by the manufacturers to be thoroughly and expertly tested before they are offered to the public. Incubator Thermometers, \$1.25; postpaid, \$1.35.

"Tycos" Incubator Hygrometer

Millions of chicks die in the shell every year for the want of proper moisture conditions. The "Tycos" Incubator Hygrometer is not a regulator of moisture, but is an indicator of conditions, so that if not correct, they may be made so. Each, \$2.25; postpaid, \$2.35. Hygrometer Wicks, each, 20c.

"Tycos" Certified Incubator Thermometers

With scale etched on the glass tube, so that should the tube from any cause work loose on the mounting, the efficiency of the thermometer would not in any manner be diminished. Made in mercury tube only. Each, \$1.50; postpaid, \$1.60.

	Prepaid	
Thermometers for adaptable hover.....	\$1.25	\$1.35
Thermometers for portable hover.....	1.25	1.35
Thermometers for International hover	1.00	1.10
Thermometers for Queen Incubator.....	1.25	1.35
Thermometers for brooders	1.25	1.35

We pack thermometers and all glassware in as safe a manner as possible, but will not be responsible for their safe delivery, owing to the great risk of breakage.

X-Ray Egg Tester



Brooder or Hover Thermometer.

It is designed for use on an ordinary hand lamp. In a dark room the light will be strong enough to penetrate the shell and illuminate the interior of the egg. Price, 50c; postpaid, 55c.

Lamps

Order all lamps by number.

No. 1, with burner and wick for No. 0 Cyphers' incubator. Price, \$1.75; postpaid, \$1.85.

No. 2 with burner and wick for Nos. 1, 2 and 3 Cyphers incubators. Price, \$2.00; postpaid, \$2.10.

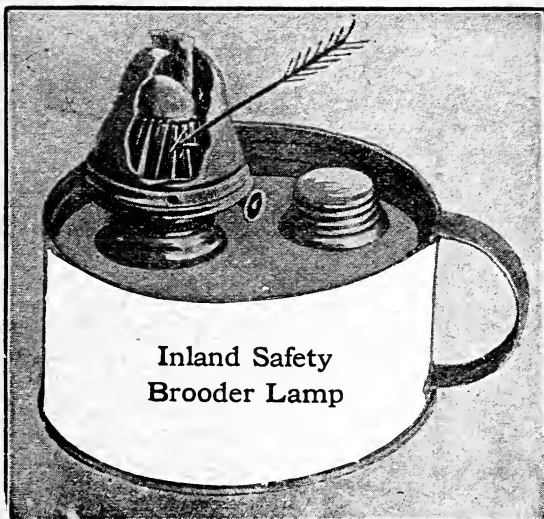
No. 3 Incubator lamp, with burner and wick, No. 3 burner, $3\frac{1}{4}$ inches diameter; $1\frac{1}{2}$ -inch wick. Height of lamp bowl, $3\frac{1}{4}$ inches; diameter $8\frac{1}{4}$ inches. Price, \$2.00; postpaid, \$2.10. If chimney wanted add 50c.

No. 4 Incubator lamp, with burner and wick; No. 2 burner, $2\frac{1}{2}$ inches diameter, 1-inch wick; height of lamp bowl, $2\frac{3}{4}$ inches, diameter 7 inches. Price, \$1.75; postpaid, \$1.85. If chimney wanted add 45c.

No. 5 Brooder lamp, complete with burner, wick and chimney; No. 3 burner, $3\frac{1}{4}$ inches diameter; $1\frac{1}{2}$ -inch wick; chimney, $3\frac{1}{4}$ x6 inches; height of lamp bowl, $3\frac{1}{4}$ inches; diameter, $8\frac{1}{4}$ inches. Price, \$2.25; postpaid, \$2.35.

No. 6 Brooder lamp, complete with burner, wick and chimney; No. 2 burner, $2\frac{1}{2}$ inches diameter, 1-inch wick; chimney, $2\frac{1}{2}$ x5 inches; height of lamp bowl $2\frac{3}{4}$ inches; diameter, 7 inches. Price, \$2.25; postpaid, \$2.35.

No. 7 Brooder lamp, complete with burner, wick and chimney; No. 32 burner, $3\frac{1}{4}$ inches diameter, 1-inch wick; chimney, $3\frac{1}{4}$ x3 $\frac{1}{4}$ inches; height of lamp bowl, $3\frac{1}{4}$ inches; diameter, $8\frac{1}{2}$ inches. Price, \$2.25; postpaid, \$2.35.



Inland Safety
Brooder Lamp

No. 8 Brooder lamp. The Inland Safety Brooder lamp requires no chimney; never smokes, burns a steady flame. The air fingers carry fresh air direct to the flame. This gives perfect combustion and more heat for a given amount of oil than with any other burner. Top of lamp is made to hold water, and it is essential to keep water there owing to heat being reflected back upon the lamp. Weight, 2 lbs. Height of bowl, $4\frac{1}{4}$ inches; diameter, $7\frac{1}{4}$ inches. Price, complete with burner and wick, \$2.25; postpaid, \$2.35.

Lamp Bowls

For Incubator or Brooder to take No. 3 burner. Bowl, $3\frac{1}{4}$ x8 $\frac{1}{4}$ inches. Price, \$1.25; postpaid, \$1.35.

For Incubator or Brooder, to take No. 2 burner. Bowl, $2\frac{5}{8}$ x7 inches. Price, \$1.25; postpaid, \$1.35.

For Incubator or Brooder to take No. 2 or 32 burner. Bowl, $3\frac{1}{4}$ x8 $\frac{1}{2}$ inches. Price, \$2.25; postpaid, \$2.35.

Lamp Burners

No. 2 for No. 0 and No. 1 Cyphers Incubators. Price, 60c; postpaid, 65c.

No. 3 for No. 2 and No. 3 Cyphers Incubators. Price, 75c; postpaid, 80c.

No. 1 Zenith, no chimney, $\frac{3}{4}$ inch wick. Price, 60c; postpaid, 65c.

No. 2 Zenith, no chimney, 1 inch wick. Price, 70c; postpaid, 75c.

No. 32, $3\frac{1}{4}$ inch chimney, 1 inch wick. Price, 60c; postpaid, 65c.

Lamp Chimneys

Chimney, $2\frac{1}{4}$ x5 inches, for No. 2 burners. Price, 50c; postpaid, 55c.

Chimney, $3\frac{1}{4}$ x6 inches, for No. 3 burners. Price, 50c; postpaid, 55c.

Chimney, $3\frac{1}{4}$ x3 $\frac{1}{4}$ inches, for No. 32 burner. Price, 50c; postpaid, 55c.

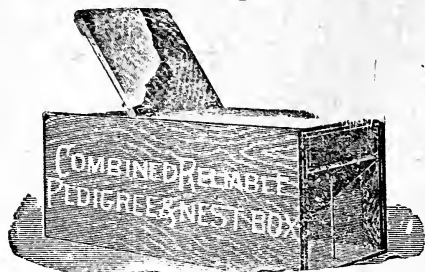
Lamp Collars

For No. 3 and No. 2 burners, 10c each.

Lamp Wicks

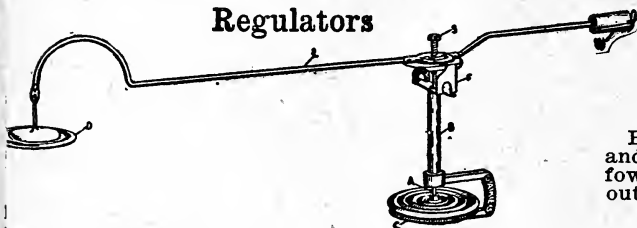
No. 1, 2, 3, 5c each; 50c dozen.

The Reliable Pedigree Nest Box



The best and most successful breeders in the country are at present following the pedigree plan and using automatic nest boxes of some kind. They can be used either for pedigreering the stock or as an ordinary nest box. Weight, 3 lbs. Price, \$3.00; add postage.

Regulators



In this Regulator the wafer is inverted and as it expands it acts through the short lever beneath it on the connecting rod, and the down pull of the connecting rod so moves the top lever as to lift the damper. Accurate adjustment is secured through the adjustment nut and the upper end of the connecting rod. Weight, 1 lb. Price, \$2.75; add postage.

Wafer Thermostat



The Wafer Thermostat is made of two round concave discs, sealed together at the outer edge. The

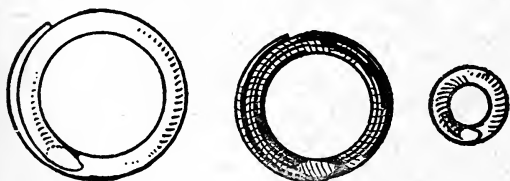
cavity between them is filled with a volatile liquid which is very sensitive to changes in temperature. Price, postpaid, \$1.00.

Leg Bands



Champion—The oldest and most popular band on the market. This band is made in one piece, is adjustable to fit any fowl. They will stay where you put them. Held by double lock, it is impossible for them to lose off. Made of aluminum. Postpaid, 12, 20c; 25, 35c; 50, 60c; 100, \$1.00.

SPIRAL COLORED



Made like a key ring, easy to put on. Birds identified easily on account of the different colors. Carried in white, green, black and pink for the following breeds: Asiatics—Brahma, Orpington and Langshans. Americans—Plymouth Rocks, R. I. Reds and Wyandottes. Mediterranean—Leghorns, Minorcas and Anconas. Price: 12, 20c; 25, 35c; 50, 60c; 100, \$1.00.

Pigeon colored bands. Price, 12, 20c; 25, 35c; 50, 60c; 100, \$1.00.

Petty's Poultry Punch



Latest, most convenient Poultry Punch: will not clog. Thoroughly practical. Postpaid, 25c.

SAFE EDGE KILLING KNIFE

FRENCH SAFE-EDGE KILLING KNIFE
PILLING - PHILA.

Exactly same as French Killer except cut on one side only. Price, 65c; postpaid, 70c.

Pilling Angular Killing Knife

ANGULAR POULTRY KILLER
PILLING - PHILA.

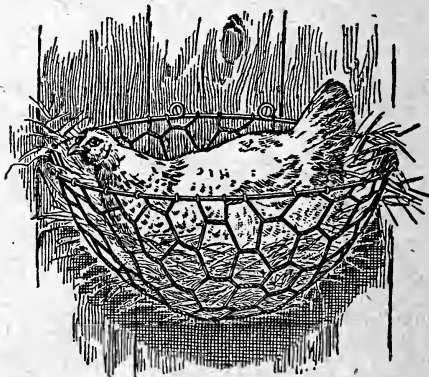
By simply turning the wrist the juglar vein and spiral cord are cut, thereby bleeding the fowl, allowing the feathers to be removed without using water. Price, 65c; postpaid, 70c.

New Philadelphia Capon Set



This set has many admirers. It consists of a knife for making the incision; the spreader, for holding sides open; sharp hook, for piercing skin; the Lansdowne Remover, for removing the testicles. Cords with hooks for holding the bird. Cup forceps for removing any foreign matter. They are fine instruments of the best workmanship. Price, \$3.00; postpaid, \$3.10.

Wire Nests



These nests are strongly made from heavy japanned steel wire. They are intended to be fastened to the wall with screws or screw hooks. There is no room on them for lodgment of lice or vermin or any kind; they are easy to keep clean and are far superior to wooden boxes.

Size, 14 inches in diameter, 1½-inch mesh. Each, 30c; ½ doz., \$1.65; doz., \$3.00. Weight per doz., 3 lbs. Add postage.

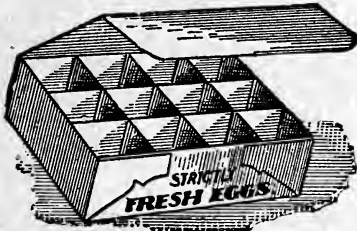
Nest Eggs



Medicated—Should be used the year around. **Directions for Use**—Don't expect one egg to rid your poultry and poultry house of lice. To realize the best results keep an egg in each nest for laying hens; in each coop for brooding hens and chicks, and enough to change about under setting hens. Weight, per doz., 3 lbs. Each, 10c; ½ doz., 55c; doz., \$1.00; add postage.

Porcelain—Weight per doz., 2 lbs. Price, doz., 40c; add postage.

EGG BOXES

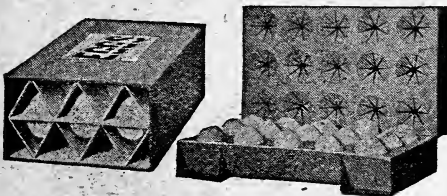


Paper—Intended for use in delivering eggs to private families. If you have a select egg trade you should use this box.

Square—Doz., 30c; package of 125, \$2.75; bundle of 250, \$5.00; 500, \$9.00; 1,000, \$17.50; add postage. Weight of 125, 15 lbs.

Long—Doz., 30c; package of 125, \$2.75; 500 \$9.00; 1,000, \$17.50; add postage. Weight of 125, 15 lbs.

Diamond Egg Boxes



The construction is simplicity itself. The eggs do not come in contact with the outer box, having a cushion on all sides, thus insuring safe transportation to a customer.

The one great essential in shipping eggs for hatching is to secure a package that will carry them to their destination safely. Hatching eggs are either forwarded by parcel post or express in either case they are subject to rough handling and must, therefore be packed in a container that will withstand the rough usage that they are subjected to.

We have given a great deal of consideration and very careful examination to the different packages on the market, and we have decided to handle the Diamond, even though we could secure other makes for much less price. We are not trying to compete in price with other makes, as we have the fullest confidence in the superior quality of the Diamond Egg Carriers.

The foregoing statements regarding quality refers in like manner to our Parcel Post Egg Boxes and our Day-Old Chick Boxes.

Read What Others Say Regarding Diamond Egg Carriers

Am shipping eggs to California and Oregon in your boxes and, best of all, am having satisfactory reports as to their safe arrival, etc. I shall continue to use your goods. Have tried out a number of boxes in order to find out which would really give me the best satisfaction in order that high class eggs from my yards might reach customers in the best possible condition. Have finally decided that the "DIAMOND" is the best box I have ever used.

We are very proud of them. I have some others, but they are not equal to yours, and just as soon as I need some more I shall send you my order. It is the most wonderful invention that I have ever seen.

JOHN W. WARD, Jr.
New Jersey.

I have used and sold egg carriers for nearly twenty years, and am satisfied this is the safest box I have ever seen. I stood on the box without damage to it. Pressure on the box causes no pressure on the eggs, a point no other box I am familiar with has. L. D. WRIGHT,
Iowa.

I am busy using the "Diamond" duck box and can say that it is certainly a dandy for the purpose. Have not received one complaint about eggs not getting to their destination safely and I have shipped as far as the states of Vermont and Washington. There is no way for them to get injured other than having a ten-ton safe fall on them. Would like to get a couple dozen more.

E. G. SHOWERS,
Onalaska, Wisconsin.

I have been using your DIAMOND egg boxes for some time with wonderful success. So far I have not had any complaint of cracked or broken eggs. Your egg box is not only a very clever idea, but it is an economy to the user for the reason that he is not constantly bothered with complaints and compelled to replace valuable hatching eggs, which may have been shipped in unsuitable cases. W. W. HARDER,
Washington.

Long Distance Egg Shipment

Some time ago Edward Davidson, breeder of Barred and Buff Rocks and Rouen Ducks, near Carey, received an order for eggs from Moscow, Russia, and asked the editor of the Record to assist in packing them for shipment. Although we had little hopes of their ever reaching Russia without being broken no matter how they were packed, we consented. The eggs were packed in Diamond egg boxes, made in Minneapolis, just as we had been packing eggs all through the season. A couple of months later Mr. Davidson received word that the eggs had arrived there safely—none broken. Here is an extract from the letter:

"I have much pleasure in notifying you that the eggs arrived very safely here, and I wish to thank you most heartily for the very prompt execution of the order and especially for the ingenious way of packing the eggs. On our Russian railways eggs are generally handled very roughly and breakages are a general thing, but in your lot not a single egg was broken. I dare say I will get some chicks though the eggs were on the way more than five weeks."

We believe this shipment establishes a new record for safe long distance egg shipments. It surely does if weight of package is considered.

The package referred to was one of the regular DIAMOND EGG CARRIERS for eggs for hatching, 15-egg size.

15-egg size. Each, 35c; 1/2 doz., \$2.00; doz., \$3.90.

30-egg size. Each, 55c; 1/2 doz., \$3.15; doz., \$6.00.

50-egg size. Each, 80c; 1/2 doz., \$4.75; doz., \$9.00.

100-egg size. Each, \$1.50; 1/2 doz., \$8.75; doz., \$17.00.

12-egg size duck. Each, 40c; 1/2 doz., \$2.35; doz., \$4.50.

12-egg size turkey. Each, 40c; 1/2 doz., \$2.35; doz., \$4.50.

9-egg size goose. Each, 45c; 1/2 doz., \$2.60; doz., \$5.00.

Mailings weights: 15-egg size, duck, turkey and goose, 1-lb. each; 30 and 50-egg size, 2-lbs. each; 100-egg size, 3-lbs. Add postage.

Parcel Post Egg Boxes

1-doz. size. Each, 35c; 1/2 doz., \$2.00; doz., \$3.90.

2-doz. size. Each, 50c; 1/2 doz., \$2.85; doz., \$5.50.

4-doz. size. Each, 75c; 1/2 doz., \$4.35; doz., \$8.50.

Mailing weight 1-lb each. Add postage.

Prices on all egg boxes subject to change.

Egg Cases

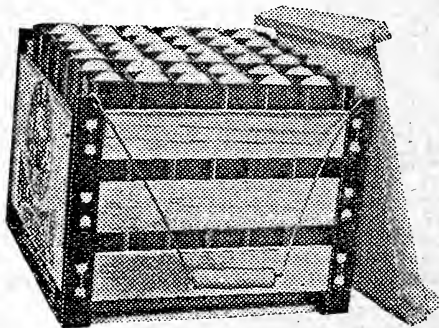
30-dozen case, with pasteboard fillers, 85c.

Pasteboard fillers for 30-dozen case, 50c.

Pasteboard fillers, per case (for 12 30-dozen cases), \$4.50.

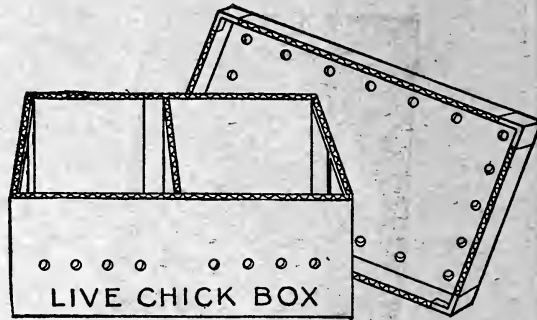
Cases, K. D., each, 40c; 1/2 doz., \$2.25; doz., \$4.00.

The "Steelbound" Egg Carrier



Frame is made of the best quality of sheet steel. Wood is fastened to steel by a patented process, making a light, rigid and practically indestructible carrier. Cover rests on steel frame and cannot be pressed down on contents of crate; it also fits into corners so as to brace the frame in all directions. Handles are made of steel spring wire, are fastened securely to steel frame so that they cannot work loose or come off; they lock together over cover and cover cannot be removed until handles are unlocked. Capacity, 12 dozen. weight, 7 lbs. Price, 85c; add postage.

Shipping Boxes for Day-Old Chicks



These shipping boxes are well made of high-test corrugated paper, which is very strong and durable. The construction of these boxes is such as to afford the greatest strength and stiffness, without unnecessary bulk of weight.

25-capacity. Each, 35c; 1/2 doz., \$2.00; doz., \$3.90; bundles of 25, \$7.80.

50-capacity. Each, 50c; 1/2 doz., \$2.85; doz., \$5.50; bundles of 25, \$11.00.

100-capacity. Each, 75c; 1/2 doz., \$4.25; doz., \$8.25; bundles of 25, \$16.50.

Prices subject to change.

Weight per dozen boxes, 25 size, 7 lbs.; 50 size, 15 lbs.; 100 size, 23 lbs. Add postage.

Shipping Coops

INLAND—All wood, neat, very light, but strong. Poultry raisers selling poultry at fancy prices should always use these coops.

No.—10x20, 50c; 1/2 doz., \$2.75; doz., \$5.00.

No. 2—12x24x20, 60c; 1/2 doz., \$3.25; doz., \$6.00.

No. 3—20x24x20, 70c; 1/2 doz., \$4.00; doz., \$7.50.

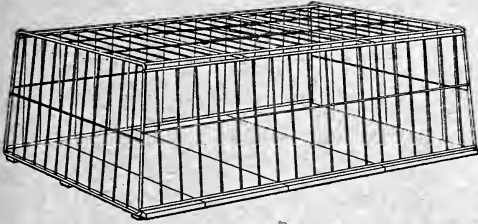
Ask for prices.

Clover Leaf Steel Shipping Coop



Actual Weight on Coop, 1194 Pounds.

SHIPPING COOPS—Continued



This steel coop will outlast three wood crates and will save its cost each season in repairs and transportation charges.

It is made of galvanized steel bars and wire, and will not rust.

It is sanitary, as there are no holes or crevices in which vermin can breed.

It has a narrow mesh on top, which eliminates the possibility of the poultry poking their heads through and being killed.

Weighs but 24 pounds, and never gets heavier with moisture.

It is built on a taper, so that the coops will slide into each other, after removing the bottom. This feature is a great advantage, as the coop is not weakened by making it collapsible. The bottoms are easily and quickly detached.

Size, 27x41x13 inches. Price, \$5.00.

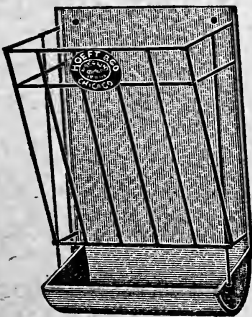
Size, 27x41x20 inches high. Price, \$5.75.

Inland Grit and Shell Box

The Inland Sanitary Feed and Shell Boxes work a material saving in grit, shell, bone, charcoal or poultry feeds. They are thoroughly practical, self-feeding, made of heavy galvanized iron. They are provided with a cover or lid, which protects the contents, and being placed at an angle furnishes a slanting top, preventing the fowls from roosting on the top of the box. Price, 3 compartment, \$1.50. Weight 3 lbs. Add postage.



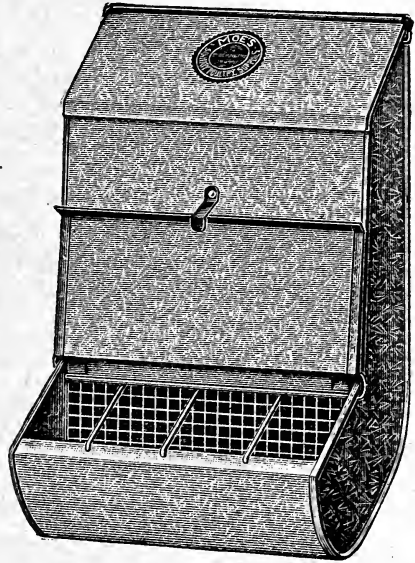
Moe's Poultry Vegetable Rack



Vegetable Rack.

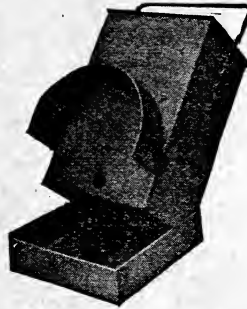
Manufactured from galvanized iron and wire. For feeding roots, beets, cabbage, sprouted oats, etc. A big time and feed saver. Every breeder needs one or more. Price, each, \$1.25. Weight, 2 lbs. Add postage.

INLAND DRY MASH HOPPER



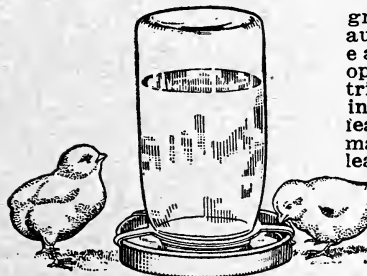
The curved bottom of the Hopper keeps the feed within easy reach of the birds. The gradual enlargement from the top to base prevents clogging. The wire grid and the wires running from the flange through the wire grid prevents any chance of the fowls throwing out or wasting the feed. The sloping cover prevents the birds from roosting on the Hopper, and when both covers are closed, it is rat and mouse proof. A trial will convince you that it is a hopper of the greatest merit. Manufactured of heavy galvanized iron. Made in two sizes. Length, 12 inches. Capacity, 16 quarts. Weight, 4 lbs. Price, \$2.50; add postage. Length, 24 inches. Capacity, 32 quarts. Weight, 7 lbs. Price, \$4.25; add postage.

Drop Bottom Founts



28-gauge galvanized steel. Easiest thing in the world to open and clean. Clasp by which the bottom is fastened fits over the small hole under the hood, preventing slopping of water when the fount is handled. Solid brass hinge rod—no rust. Gal., \$1.50; weight, 3 pounds, 2 gal., \$1.75; weight, 4 lbs.; add postage.

Automatic Fountain and Feeder



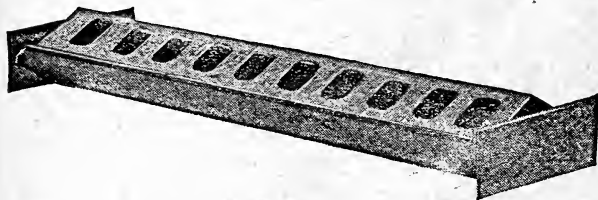
Feeds water, grain, grit, etc., automatically. Is easy to fill and operate. Just lift trigger, as shown in cut, which releases pan, clip remaining on jar, leaving pan without any obstruction, hence easily cleaned, and sanitary.

Made to fit any half gallon, quart or pint Mason jar. We do not furnish jars. Made in

two sizes. Ordinary size, 5-inch pan. Each, 25c; 1/2 doz., \$1.25; doz., \$2.25. Weight, 4 lbs. per doz. Add postage.

Large size, 6-inch pan. Each, 30c; 1/2 doz., \$1.50; doz., \$2.75. Weight, 6 lbs. per doz. Add postage.

Feed Troughs



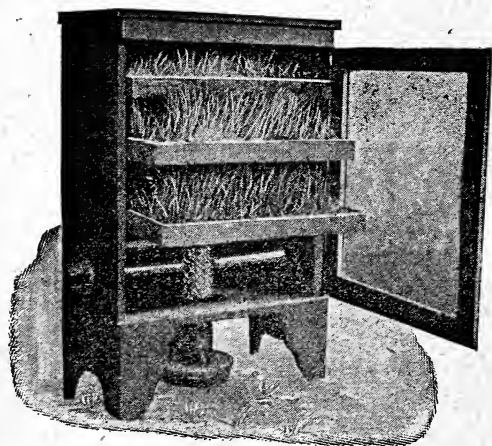
Made from one piece of metal. Gable-shaped grate top prevents chicks from getting in trough and wasting feed. Top easily removed. Easily cleaned. Wide stand at ends prevents upsetting. Made of galvanized iron.

10-inch size. Each, 40c; 1/2 doz., \$2.25; doz., \$4.00.

20-inch size. Each, 60c; 1/2 doz., \$3.25; doz., \$6.00.

Weight, 1-lb. each. Add postage.

Grain and Oat Sprouters



Reliable

Poultry needs green feed in one form or another. All experiments by individuals and agricultural colleges have found that oat sprouts are the best green feed that can be obtained for poultry.

You want the eggs when the eggs sell at the highest price. Green feed makes your hens lay.

The Reliable Grain and Oat Sprouter has an automatic sprinkler, which furnishes moisture.

Has a Moisture Receptacle, which catches the surplus drip.

Has circulation of warm air which passes all around and over each tray.

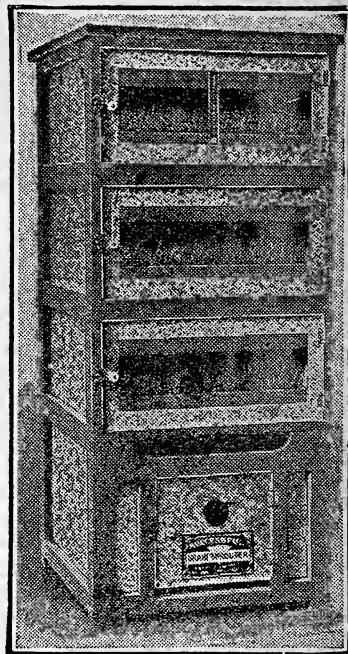
Has a regular oil heater to furnish sufficient warm air in coldest weather.

Is made of galvanized iron with large glass front.

Three trays will furnish sprouts for 50 to 75 fowls. Price, \$17.50.

Six trays will furnish sprouts for 100 to 150 fowls. Price, \$25.00.

Successful Sprouter



As you will notice by the illustration the Successful Sprouter is built in sections, consisting of the base, containing the lamp and the vapor pan. The size of the base is 20 inches square by 15 inches high. Each section contains two trays. The size of the section is 20 inches square and 10 1/4 inches high. Each tray measures 17 inches square. The advantage in this sectional feature lies in the fact that you can purchase one of the smaller sizes to satisfy your present needs. Then, when your flock has increased 50 or 100 hens, you can order another section; thus increasing the capacity of your sprouter at a small outlay.

The double steel walls make it absolutely safe and indestructible. Does not warp, shrink, swell, rot or get out of order like wooden sprouters.

Has solid steel trays with 256 holes in bottom. They are always clean. Roots of grain will not fasten to bottom as in wire mesh bottom trays; will not rust or fall to pieces.

Ventilation below and above the grain a safeguard against mould.

Has hinged top so you can sprinkle the grain from above in one operation. Capacity, from 40 to 50 quarts dry grain, and is recommended for flocks of from 400 to 600 hens. The sprouter here shown in cut has three sections or 6 trays. The one quoted has 5 sections or 10 trays.

Price, \$25.00.

Banner Root Cutters



No. 7

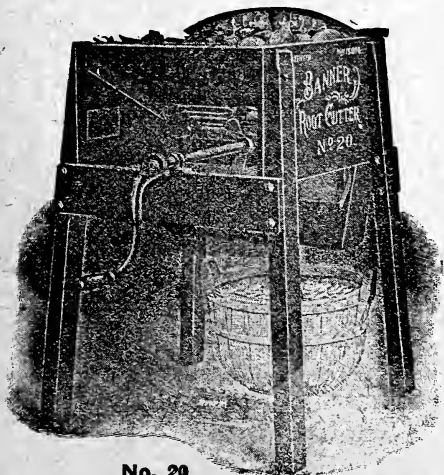
These excellent machines are so low in price that every farmer, stock raiser or poultry man should have one, as roots are the cheapest green feed for stock and poultry.

The Banner is substantially made of first-class material.

It cuts fast and is easy running. Leaves the feed in fine ribbon-like strips that make choking impossible. Fowls large or small can safely eat the feed. The knives are adjustable and made of the very best of steel. An iron grate in bottom of hopper lets dirt and gravel escape before reaching the knives. In this cutter we offer the poultrymen a low priced, high grade, nicely finished and mechanically constructed machine, and feel that anyone who desires to feed roots and vegetables to their flocks can well afford to own one. Two to five minutes will cut enough feed for a large flock of fowls.

Weight, 50 lbs. Extra knives, 35c each.

Price, \$8.50.

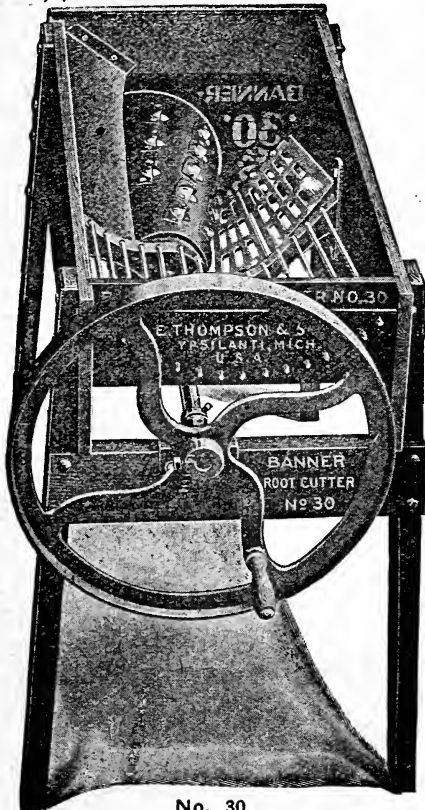


No. 20

No. 20 is made for hand power and is the kind and style that meets with the largest sale, be-

cause most of the farmers who feed roots to stock want a machine that is run by hand. It has a capacity of 30 to 50 bushels per hour.

It is well built, nicely finished, runs easily, feeds itself, separates the dirt from the cut feed, and is supplied with the best steel knives. Price, \$25.00; weight, 120 lbs. Extra knives, per set of 20, \$1.75.



No. 30

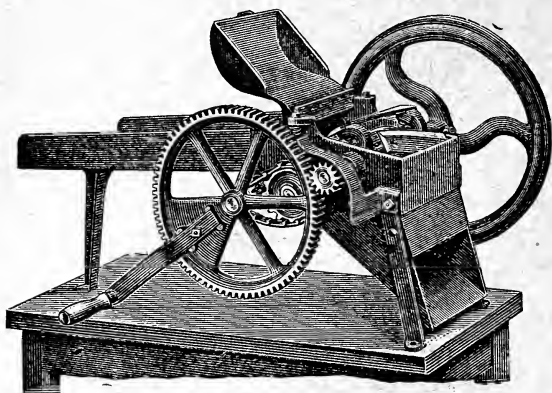
A glance at the cut of No. 30 shows the large capacity of the hopper, 39 inches long, 18 inches wide and 18 inches deep at the lower or cutting end. The long drum with 30 knives attached. The gravity slant of the inside of the hopper. The open bottom with iron rods and open cutting grate allows dirt to escape without mixing with the cut feed.

Capacity, $1\frac{1}{2}$ to 2 bushels per minute. Price, \$45.00. Weight, 190 lbs.

A glance at the cut of No. 30 shows the large capacity of the hopper, 39 inches long, 18 inches wide and 18 inches deep at the lower or cutting end. The long drum with 30 knives attached. The gravity slant of the inside of the hopper. The open bottom with iron rods and open cutting grate allows dirt to escape without mixing with the cut feed.

Capacity, $1\frac{1}{2}$ to 2 bushels per minute. Price, \$28.00. Weight, 190 lbs.

Good seeds are of the greatest importance. Our seeds are all selected for the Northwestern territory and will do better than Southern or Eastern seeds.

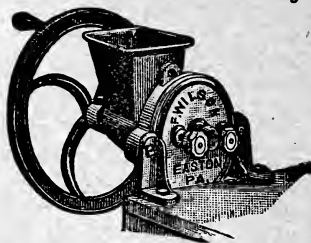
"New Model" Clover Cutter

The Model Clover Cutter is designed for cutting either green or dry, such growths as clover, alfalfa, vegetable tops, etc. These growths are the cheapest feed that can be secured.

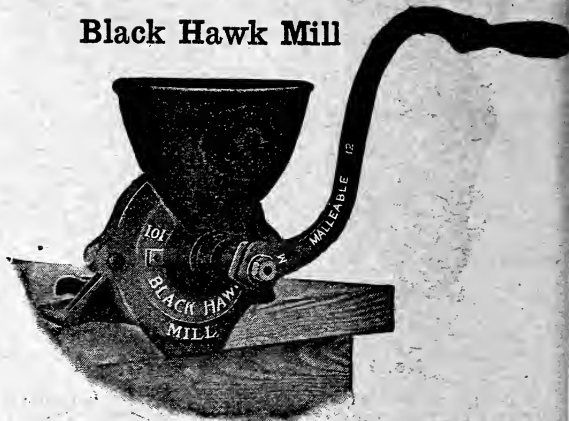
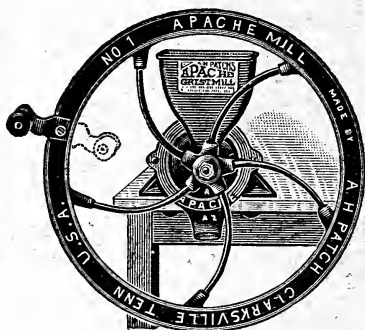
The Model is made only of iron and steel, from entirely new patterns. It is a strong feeder, has large capacity, runs unusually easy and will do perfect work indefinitely. Has removable and adjustable steel knives.

Price, with four 7-inch knives, \$20.00.

Price, with extended shaft and pulley for power, \$22.50.

The Wilson Dry Bone Mill

This is a practical mill, grinding all kinds of shells, crockery, grit, burnt or dry bone feed, etc. Instantly adjusted to grind coarse or fine. Weighs 33 pounds. Diameter of hand wheel, 20 inches. Price, \$8.75. Add postage.

Black Hawk Mill**Apache Mill**

Grinding plates can be taken out easily for cleaning or replacing.

The handle can be set in two positions as shown, making a longer or shorter leverage as desired.

The light steel spokes make it possible to have practically all the weight of the fly wheel in the outer rim.

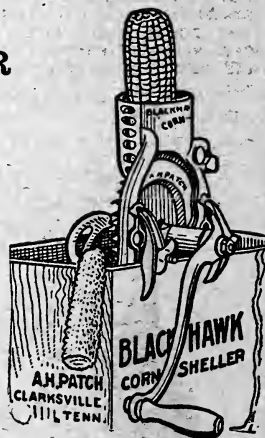
The Apache grinds all dry grains such as corn, wheat, rye, rice, coffee, spices, etc. Makes corn meal, hominy, chops, breakfast foods, etc. It will grind a quart of table meal in two minutes.

Large hopper, ball bearing. Weight, 40 lbs. Price, \$11.50; add postage.

WITH A BLACK HAWK MILL in the house you crack the corn and grind any kind of grain to whatever degree of fineness you desire or whichever will best suit the use or condition of your chickens. Its wide range of usefulness, its durability and small cost will appeal to the family in town with a small flock in the back-yard, and it has a large enough capacity to meet the needs of those in the country who keep poultry on a big scale, eight, 22 lbs. Price, \$4.75; add postage.

BLACK HAWK CORN SHELLER**A Sheller That Shells**

It can be set to shell any corn that grows. Made with ball-bearings, obviating the expense of a heavy balance wheel. Easily fastened to box by thumbscrews—no bolts nor screws required—no holes to be bored. Weight, 14 lbs. Price, \$4.00; add postage.



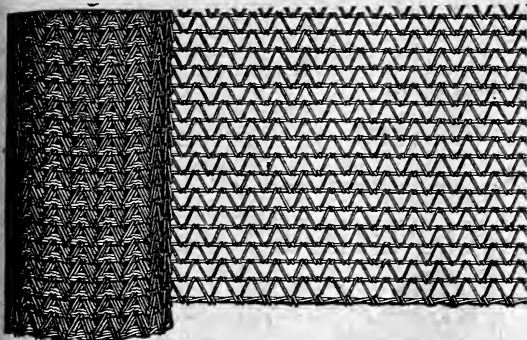
Our field seeds are all tested. Samples furnished.

Examine our special assortments on page 1.

U. S.

Poultry Feeds

Special Poultry and Stock Fence



The U. S. Poultry Wire combines strength, durability and neatness of appearance. It is flexible, and readily adjusts itself to uneven surfaces without buckling. Stretches in firm, straight lines without rail supports, requires few posts and no top or bottom rail is required to keep the fence from sagging or narrowing together between the posts. Bear in mind that the bars in the "U. S." fencing are only two inches apart. Put up in rolls containing 150 lineal feet.

Prices per roll of 150 feet:

12 inches.....\$ 4.95	12 inches.....\$ 2.05
18 inches..... 7.15	18 inches..... 3.10
24 inches..... 9.10	24 inches..... 3.90
30 inches..... 10.80	30 inches..... 4.70
36 inches..... 12.40	36 inches..... 5.35
48 inches..... 16.50	48 inches..... 7.15
	60 inches..... 8.90
	72 inches..... 10.70

Less than roll, 5c.
square foot.

Less than roll, 2c.
square foot.

Prices subject to change.

In the days gone by it used to be considered that anything was good enough to be fed to poultry. The poultry business of today is being rapidly conducted on a truly scientific basis. There are three great essentials to success in the poultry business: Stock, Care, Feed. The success of the poultry man will depend upon the care and attention given to these three points. We are not supplying stock, and cannot give care, but we can and are supplying feed.

The different kinds of feed manufactured by us are put up under our Clover Leaf Brand, each bag bearing our name and a large green four-leaved clover. These are not put up haphazard, but are always put up as near as possible under the same formula regardless of the varying prices of the different grains and ingredients.

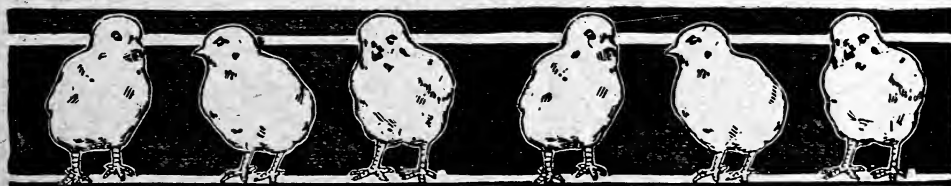
Advantages of using Clover Leaf Brand: Uniformity, Dependability, Purity, Cleanliness, Results.

Please note that we are quoting on poultry feeds at prices prevailing today, but we do not give any assurances that we will continue to sell at these quotations, as we expect to keep our prices on the basis of grain and other ingredients entering into their make-up.

Alfalfa Meal

The value of some green food for fowls can hardly be overestimated. For a winter feed alfalfa is one of the best for this purpose. It contains more protein, lime and mineral salts in soluble and digestive form than clover, and fowls relish it in either a green or dry state. For producing eggs it has no equal. 100 lbs., \$2.00.

Ryde's Milk Mash.



Milk-fed poultry are unquestionably the best. They grow faster and dress up into a firm white No indigestion or bowel trouble from its use. It has the same feed value as whole milk and quality that cannot be surpassed. Ryde's Milk Mash is the same as new milk for baby chicks.

is just as easily digested. It saves both time and money, as it is far less expensive to feed than malk and contains ingredients essential to raising chicks not found in milk. 100-lb. bag, \$7.75; 50-lb. bag., \$4.00; 25-lb. bag, \$2.25; 8 1/3-lb. bag, 85c.

Clover Leaf Chick Feed

The experience of poultry raisers is the same the world over, and that is that it is easier to hatch young chicks than it is to raise them. By using Clover Leaf Chick Feed you can give the chicks just what nature intended mixed in the right proportion to produce a quick and profitable growth without loss, 25 lbs., \$1.25; 50 lbs., \$2.00; 100 lbs., \$3.75.



CLOVER LEAF FORCING FEED, as its name implies, is specially intended for properly maturing young chicks after they are ready to be weaned from chick feed. When the chicks are from six to eight weeks old they are able to eat larger particles of grain than are found in our chick feed.

Our Forcing Feed contains a variety of grain in sizes and quantities exactly suited to the purpose for which it is intended. 50 lbs., \$2.00; 100 lbs., \$3.75.

Clover Leaf Scratch Feed



This is composed of choice grains in just the correct proportions that several years of experience has demonstrated is right. Every practical poultry man will readily concede the great advantage of feeding such a mixture. Price, per 100 lbs., \$3.50.

Clover Leaf Grit



The sharpest and hardest grit known. Free from dust. Rich in iron, silica, aluminum and mica. Each crystal has sharp edges, which cut and grind, and grind and cut until the last minute particle is worn away. In ordering state whether you want chick or medium size; 100 lbs., \$1.75.

Meat Scraps

The object in buying Meat Scraps or Meat Meal is to obtain the largest amount of digestible protein possible. Meat Scraps contain from 55 to 65 per cent of protein, 10 to 12 per cent less than 5 per cent of ash.

50 lbs., \$4.00;
100 lbs., \$7.50.



Clover Leaf Balanced Ration

This is a complete ground feed. It contains all the ingredients necessary to promote quick growth, to produce eggs and to keep the birds in a good condition. We have thoroughly studied the subject of feed for fowls and know this mixture will give you the desired results. Clover Leaf Balanced Ration costs only a little more than either wheat or corn and is more valuable. Can be fed dry or in a mash. 80-lb. bag, \$3.25.



Dried Blood

One great reason why hens do not lay in winter is because they are not supplied the proper elements to produce the yolk of an egg. This can be remedied by the use of Dried Blood. Blood is the highest concentrated form of animal food and prepared so as to include all the elements of the so-called Red Albumen. Use only tablespoonful to six hens once a day. 100 lbs., \$7.50.

Bone, Granulated

Many poultrymen prefer granulated bone to fresh or green bone. Fresh bone contains 53 per cent of moisture and 12 per cent of grease, so that when a poultry man buys fresh bones he pays for 65 pounds of useless materials in every 100 pounds he buys. Granulated Bone is made from fresh bones with the moisture and grease taken out, leaving nothing but the phosphate of lime and nitrogen. 100 lbs., \$4.25.

Charcoal, Granulated

It aids digestion, purifies the blood, regulates the bowels and promotes the general good health of the chicks and adult fowls. Fine granulated, for all mash rations and for small chicks and a coarser granulated for adult fowls. Price, 50 lb. bag, \$2.75; 100 lbs., \$5.25.

Unable to quote price at present as we have none in stock and there is none to be had as our catalogue goes to press. 50-lb. bag, \$2.75.

Fish Meal

This Fish Meal is processed, that is, the oleic acid fat that so frequently taints the milk of cattle and the eggs of chickens is hydrogenated and changed into steric acid fat which is a wholesome fat.

The analysis of the Fish Meal is 50 per cent to 55 per cent protein and 20 per cent bone phosphates and is guaranteed not to taint the eggs of chickens or the milk and butter of cows. Price, \$7.50.

While Fish Meal has been recognized as being a very good article to be fed to poultry, in fact it is highly recommended by our expert poultry men for this purpose, the great difficulty has been that it tainted the eggs, thus rendering them unfit for use. This has been due to its preparation or rather its lack of preparation. Ordinary fish meal should not be fed to poultry, but is suitable only as a fertilizer. Please note the guarantee given with this fish meal.

Shell

The feeding of shells to poultry prevents soft shelled eggs, makes the shells strong, and eggs larger and heavier.

Eastern Oyster Shell, per bag, \$2.25.

Poultry Tonics

Conkey's

POULTRY CONDITIONER—For general run-down condition; a fine general tonic during the moulting season or after recovery from any disease. Pkg., 30c; weight, 10 oz.; postpaid, 35c.

Conkey's Poultry tonic fills the egg basket in spite of weather. It is not a food, but a tonic to be mixed with the regular feed during seasons when fowls get sluggish and want to loaf instead of lay. 30c, 60c, \$3.25; 12½ lb. pails, \$1.75; 25 lb., pails, \$3.25. Mailing weights, 2 lbs., 4 lbs., 17 lbs., 32 lbs. Add postage.

Gold Coin



POULTRY TONIC—It prevents all poultry diseases and saves feed. It is not what your poultry eat, but what they digest and turn into flesh and production of eggs that makes money for you.

30c, 60c, and \$1.20 packages. 12½ lb. pails, \$2.00; 25 lb. pails, \$3.75. Mailing weights, 2 lbs., 4 lbs., 7 lbs., 17 lbs., 30 lbs.: add postage.

Poultry Pepper Compound

This is a splendid tonic at all times. A small amount sprinkled in with a hot mash will stimulate the circulation and increase egg production. Lb., 25c; 5 lbs., \$1.00; add postage.

Poultry Remedies

Conkey's

BRONCHITIS REMEDY—Bronchitis is different from roup, and needs a special treatment which will reach the bronchial tubes. 60c; postpaid, 65c.

CANKER SPECIAL—A new remedy that effectively reduces the cankerous growth and brings the bird back to normal without a blemish. Also fine for treating colds, etc. Price, 60c; postpaid, 65c.

CHICKEN-POX OR SORE-HEAD REMEDY—Sore-head is getting to be one of the most serious troubles. Use it promptly and save your flock. 30c, 60c; postpaid, 35c, 65c.

CHOLERA REMEDY—For indigestion, bowel trouble and all so-called "cholera" ailments of chicks and grown fowls. 30c, 60c; postpaid, 35c, 65c.

GAPE REMEDY—Gapes is a troublesome disease, tedious to cure, but this remedy is highly successful. 30c, 60c; postpaid, 35c, 65c.

HEAD-LICE OINTMENT—If a chick droops always look for lice on head, neck or under wing. 15c, 30c; postpaid, 20c, 35c.

LICE-FIX—Another and effective way of going after and getting the body louse. Three or four applications a year are sufficient. Price, 30c; postpaid, 35c; 60c, postpaid, 65c.

LICE LIQUID FOR MITES—Spraying walls and painting roosts, cracks and crevices is the only way to rid the house of mites. Conkey's Lice Liquid is a highly satisfactory lice spray. Gal., \$1.50; 2 quarts, 90c; quarts, 60c. Not mailable.

LICE POWDER—Conkey's Lice Powder is excellent for ridding fowls of body lice, as it quickly kills these pests when sifted into the feathers of the birds, and it does not injure the fowls or even taint eggs in the nest. 30c, 60c; mailing weight, 2 lbs., 4 lbs.; add postage.

LIMBER NECK REMEDY—You will not lose a bird from limber neck if you give this medicine promptly. 60c; postpaid, 65c.

POULTRY LAXATIVE—Purgative or laxative, according to dose. 30c; postpaid, 35c.

ROUP PILLS—For the individual treatment of birds and for use in the show room. Price, 25c, 50c and \$1.00; postpaid, 30c, 55c and \$1.05.

ROUP REMEDY—Remember that roup is highly contagious. Neglect to treat promptly endangers your whole flock. But even in neglected stages don't despair, but use Conkey's Roup Remedy according to the special direction for worse cases. 30c, 60c and \$1.00; postpaid, 35c, 65c and \$1.05.

SCALY LEG REMEDY—Keeps the feet in nice shape. 30c; postpaid, 35c.

WHITE DIARRHOEA REMEDY is a special preventative and remedy for this dread scourge of incubator chicks. Price, 30c, 60c; postpaid, 35c, 65c.

Gold Coin

LICE KILLER—Kills lice in hen houses, hog pens, stables, etc. Quarts, 60c; half gallon, 90c; one gallon, \$1.50. Not mailable.

LOUSE POWDER—Kills lice, ticks, mites on poultry, pigeons, dogs, cats, stock. Can, 30c and 60c; mailing weight, 2 and 4 lbs.: add postage.

Lice Powders

Buhach

DIRECTIONS FOR APPLYING BUHACH

HOUSE FLIES—In a house, hotel, restaurant, lodge room or any other indoor apartment, close all the doors and windows and fill the atmosphere with the fine powder of Buhach, taking care that each window sill and sash is well powdered.

ANTS—If in the house, sprinkle the Buhach across the trails and in all the places where they frequent. If the first operation does not clear them out it must be repeated, and they should be followed to their burrows, if possible.

BEDBUGS—Sprinkle Buhach in beds and bedding and blow the powder in every hole and crevice in the bedstead and walls of the room.

MOSQUITOES AND GNATS—Close the doors and windows of the room or house and put from two to four tablepoonsfuls of Buhach in a heap upon a tin plate or stove shovel; set fire to same and leave it burn in the room. They can also be cleaned out by using the powder in the same manner as directed for house flies.

COCKROACHES may be driven away by a liberal use of the Buhach, blowing it into the cracks and crevices where they abound.

MOTHS AND MILLERS—The ravages of these pests may be reduced by sprinkling carpets, furs, woolen goods, etc., liberally with Buhach.

1½ oz. pkg., 30c; 3 oz. pkg., 50c; 6 oz. pkg., 75c; 12 oz. pkg., \$1.25. Add postage.

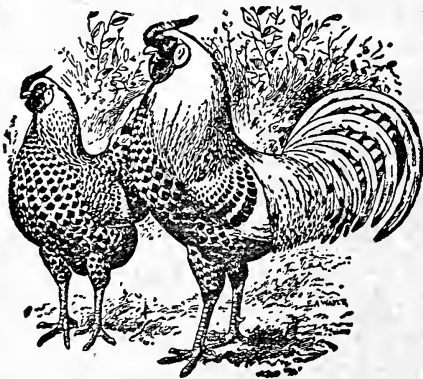
PERSIAN INSECT POWDER—Lb., \$1.50; add postage.

Tobacco Dust

For use in dust baths or nests. A cheap and effective exterminator of lice. Lb., 15c; add postage.

DISINFECTANTS

Carbolineum



Carbolineum is without doubt the most effective exterminator of mites and lice on poultry, poultry houses, lice on horses, cattle and hogs, ticks on sheep, fleas on cats and dogs.

FOR CHICKENS—Simply paint walls, roosts, floors and roofs of the poultry houses or barns after first thoroughly cleaning them. It does not make a particle of difference whether the interior is of wood, plaster or tar paper. One coat of Carbolineum kills instantly all mites, bugs, lice and vermin.

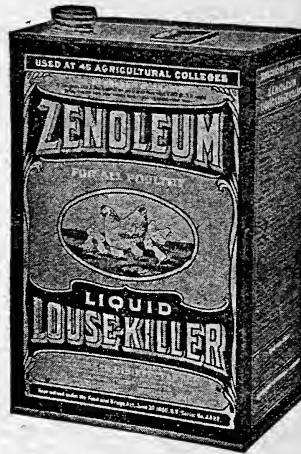
FOR HORSES, CATTE AND SHEEP—Sprinkle some on an old blanket and tie around the animal for several hours. Also paint the stalls.

FOR HOGS—Sprinkle a little Carbolineum diluted with water on the bedding and also paint the hog pen.

Quarts, 60c; gallons, \$2.00. Not mailable.

NOX-I-CIDE—Is an all-around preventative, as it keeps the quarters sanitary and kills the germs. Use it as a dip, disinfectant, spray or as a lice liquid. Gallon, \$2.00; 2 quarts, \$1.25; quart, 75c; pint, 50c; not mailable.

Zenoleum



One gallon of Zenoleum makes 100 gallons of positive disinfectant. Kills vermin, cures skin trouble. Invaluable as a remedy for diseases of poultry and all live stock. Kills lice and cures mange. Disinfects incubators. 8-ounce can, 35c; quart, 75c; ½-gallon, \$1.25; gallon \$2.00; not mailable.

GERM KILLER—Destroys all disease germs, cleanses and purifies filthy places. Can, 30c and 60c; not mailable.

DOG SPECIALTIES

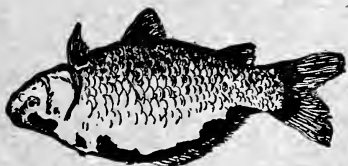


PUPPY BISCUITS (The Standard Puppy Food)—A perfect and whole food for puppies of all breeds. Puppies should be started on these biscuits when about one month old and they should be continued until such time as their teeth become sound and strong, usually when they are about six months old. Pkt., 50c; mailing weight, 3 lbs. Add postage.

DOG BISCUIT—The analysis of these biscuits shows that they are, weight for weight, equal in nourishment to fresh raw beefsteak and superior to it as a food for dogs. The standard dog food; a staple and constant food for all breed of dogs. Pkt., 50c; mailing weight, 3 lbs., 10 lb., bag, \$1.60. Add postage.

Booklet, Spratt's Dog Culture, mailed on request.

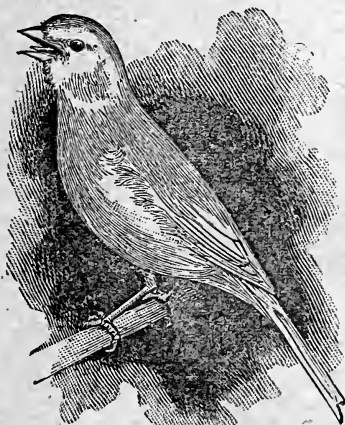
FISH FOOD



SPRATT'S—The best food for rearing trout, etc. Used at the leading trout hatcheries. Price 10c; postpaid, 15c.

WAFFER FISH FOOD—This, as its name implies, comes in wafer form and is a highly nutritious preparation which is eagerly eaten by gold fish and other fish. Price, 20c.

BIRD SPECIALTIES



SPRATT'S PATENT LEE

COPYRIGHT

BIRD BITTERS—A remedy for nearly all the diseases of cage birds. 30c; postpaid, 35c.

BIRD HEALTH—A condition powder. Should be fed only when your bird is sick, but it should be used as a preventive of disease. 20c; postpaid, 25c.

BIRD MANNA—Keeps cage birds in constant song, improves their plumage and prevents disease. 15c; postpaid, 20c.

BIRD SAND—Pkg., 2 lbs., price, 20c; add postage.

SONG RESTORER—A treat and tonic for canaries, linnets, and all seed-eating birds. 25c; postpaid, 30c.

SPRATT'S BIRD TONIC (Henning's)—For the prevention and cure of all diseases which cage birds of subjected to. Bottles, 25c; not mallable.

SPRATT'S PARROT FOOD—A mixed food for parrots which should be kept before them all the time. 25c; postpaid, 30c.

SPRATT'S "DEFIANCE" MOCKING BIRD FOOD—The purest food obtainable for mocking birds, robins, thrushes and other soft-billed birds. 30c; postpaid, 35c.

SPRATT'S PATENT POLLICRACKERS—A specially prepared biscuit for parrots and all similar birds. Made in a convenient size for a bird to grasp. Is greatly relished as a change. 30c; postpaid, 35c.

SPRATT'S "CANARDYNE" (Tibbs)—For asthma and wheezing in cage birds. Bottles, 30c; not mallable.

MITE POWDER—To free the bird from mites, blow a little of the Mite Powder under the feathers of the bird in the evening by means of an insect powder gun. At night cover the cage with a piece of white canton flannel. Early next

morning remove the flannel and carefully destroy all the mites, which have crawled into it during the night, by immersing it in hot water. Price, 30c; postpaid, 35c.

POWDER GUNS—25c, 35c; postpaid, 30c, 40c.

Bird Seed

CLOVER LEAF—Lb. packages, 20c.

CANARY—Per lb., 15c.

HEMP—Per lb., 15c.

RAPE—Per lb., 15c.

MILLET—Per lb., 15c.

CUTTLE BONE—Two for 5c.

SUNFLOWER—Per lb., 15c.

Add postage on all bird seeds.

Hare Ear Marks



Price, doz., 20c; 25, 35c; 50 60c; 100 \$1.00. Numbers only.

Dairy Supplies

DE LAVAL CREAM SEPARATORS

Skims cleanest, turns and washes easiest, construction simplest; lasts the longest.

The De Laval was the first cream separator in 1878 and it has been first ever since.

More De Laval's are in use than all other makes combined.

98 per cent of the world's creameries use the De Laval exclusively.

The machine that is best for the dairyman.

De Laval hand-size machines range in capacity from 1.350 to 225 pounds per hour—seven sizes.



De Laval Cream Separator

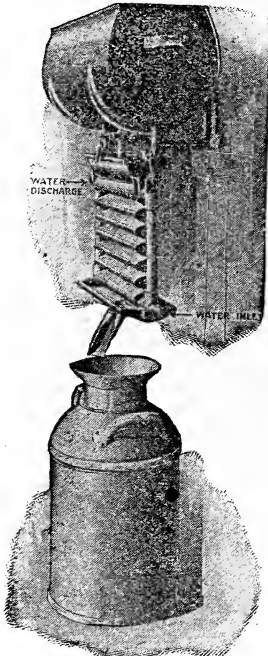
The De Laval is by far the most economical cream separator and always gives satisfaction. We carry in stock the following sizes:
 No. 5, capacity 225 lbs. per hour.
 No. 10, capacity 350 lbs. per hour.
 No. 12, capacity 500 lbs. per hour.
 No. 15, capacity 750 lbs. per hour.
 Send for catalogue.

SEPARATOR OIL

De Laval's, gallons.....	\$2.25
De Laval's, half gallons.....	1.75
Standard, gallons.....	1.75
Standard, half gallons.....	1.25

Not mailable.

Milk Cooler



Junior.

JUNIOR—This cooler is of tin construction and is as strong and durable as it is possible to construct it.

No.	Width.	Height	Capacity per Hour	Price
A	15-in.	10-in.	20-gal.	\$40.00
B	15-in.	14-in.	40-gal.	45.00
C	15-in.	17-in.	60-gal.	50.00

CANS

OHIO—This can is made with a single neck and is fitted with the popular outside bottom loop. It is very generally used for delivering milk and cream to the local creameries and will stand years of service. It is also used for a railroad shipping can. It has round handles and will be found a very satisfactory can.

5 gallons, \$5.75. Weight, 11 lbs.

10 gallons, \$7.25. Weight, 17 lbs.
 Add postage.



City Delivery

DELIVERY—Side handle, cover chained to can; well made and durable.

1 gallon, city delivery, \$2.00; 2 gallon, city delivery, \$2.50; 2 gallon (St. Johns), \$4.25; 3 gallon (St. Johns), \$4.50. Weight, 1 gallon, 5 lbs.; 2 gallons, 6 lbs.; 2 gallons, 7 lbs.; 3 gallons, 8 lbs.
 Add postage.

TIGER—The material used in the manufacture of these cans is the very best obtainable; for proof of this we call your attention to the construction of the covers, necks and bottoms; no material but the very best and most select would ever stand the strain of drawing and bending which is done in the manufacture of these cans. The parts are all smooth without waves or wrinkles and are guaranteed not to split. Material that is not properly annealed will split and crack, but our cans are **GUARANTEED** not to do this.

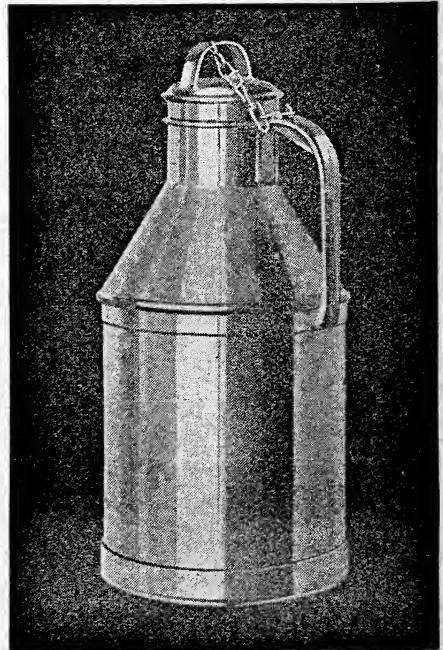
All parts are treated to two coats of pure block tin after being properly made to size so that all edges are tinned just the same as the flat surfaces.

The bottom is No. 14 gauge steel. This can has what is commonly known as the "rolled in bottom." The breast hoop is notched with a V-shaped groove in which the breast is wedged, locking it securely to place. On other cans the breast hoop is simply shrunk into place and held with solder; this hoop can easily be jarred loose. The neck is reinforced at the two most important points, and it makes a neck that will not break down. The body sheet and breast are No. 20 gauge steel and the cover is seamless. Malleable handles.

5 gallons, \$6.25. Weight, 12 lbs.

10 gallons, \$9.00. Weight, 21 lbs.

Add postage.



St. Johns

PAILS



420



430

CREAM, No. 420—20-Quart—Dimensions, 9x20. Made from full weight 5 A charcoal plate. Heavy retinned, seamless cover. Heavy ears. Retinned ball with wood grip. Price, \$2.75; weight 5 lbs. Add postage.

No. 430—20 quart. Made the same as 420, and fitted with glass gauge and solid brass faucet. Price, 20 quart, \$4.50. Weight, 5 lbs. Add post. age.



4624

No. 4634—Sanitary 14-quart. Extra heavy steel clad 5A charcoal plate mirror finish, 4 rivet ears. Extra heavy retinned balls. soldered inside and outside. Price, \$2.50; weight, 4 lbs.; add postage.



4634



1114. 14-quart dairy and water pail. Bright plate; top 11½ inches; bottom, 9 inches; height, 10 inches. Price, \$1.25. Weight, 4 lbs. Add postage.

MILK PAILS

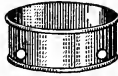


MILK, No. 4744—14-quart. Sanitary 5A charcoal plate mirror finish, soldered inside and outside. Price, \$3.50. Weight, 5 lbs. Add postage.



No. 2714. 14-quart—5A charcoal plate, mirror finish; square strainer on breast; 12¼-inch top; 9¼-inch bottom; 10¼-inch height. \$3.00. Weight, 8 lbs. Add postage.

STRAINERS



3-quart, No. 302, \$1.50; weight, 2 lbs.; add postage.

6-quart, No. 306, \$2.00; weight, 2 lbs.; add postage.

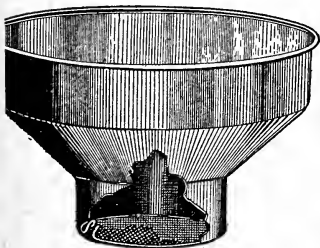
10-quart, No. 410, \$2.50; weight, 3 lbs.; add postage.

Extra heavy retinned, seamless, sanitary, 70 mesh, solid brass strainer cloth. Extra slip foot for cheese cloth.



910

10-Quart, No. 910—Extra heavy retinned seamless, sanitary, double milk strainers. Inside strainer 100 mesh, outside strainer 70 mesh. Price, \$4.50; weight, 5 lbs.; add postage.



Lock Spring



70-Mesh Strainer Cloth



Perforated Tin

No. 1010. 12-quart—Extra heavy retinned, seamless; removable strainers; sterilized cotton wadding used between perforated tin and strainer cloth. Each, \$4.00. Weight, 4 lbs. Add postage.



MILK AND CREAM SCALE

CHATILLON SPRING BALANCE

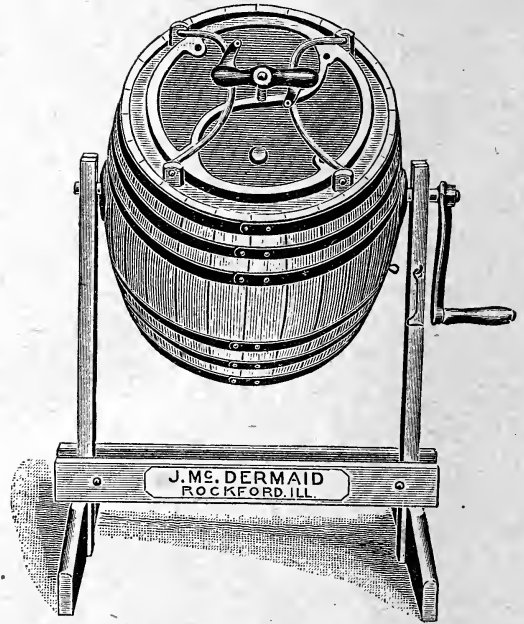
This scale is specially made for weighing milk in pails. The dial is divided into ounces. The indicator is adjustable, so that it can be set back to take out weight of pail. Each scale carefully tested.

30 pounds capacity.....\$6.50

60 pounds capacity.....8.00

Mailing weight, 4 and 5 lbs.; add postage.

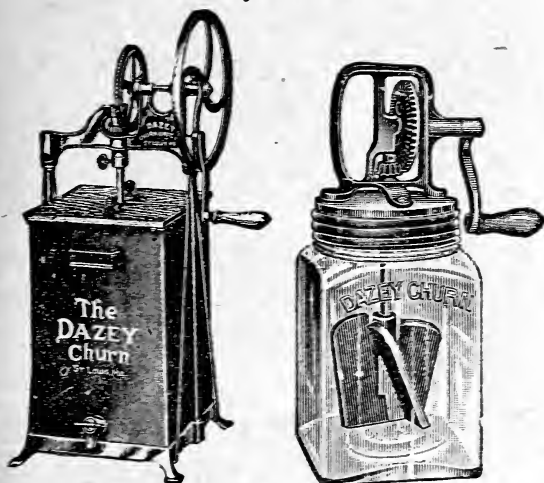
Churns



BARREL—This churn is made of the best quality white oak, thoroughly seasoned and kiln-dried, having galvanized iron rim in head, making it as strong as a barrel with two solid heads. No churn works so easily, no churn cleaned more quickly, having no dashers or paddles. The churning is done by revolving the churn, which agitates the cream and makes the butter separate from the milk. 5 gallons, \$8.75; 9 gallons, \$10.00; 15 gallons, \$11.25; 20 gallons, \$12.75.

Our location insures you prompt service. Our experience the best seeds and other goods.

Dazey Churn



Metal

The dasher in conjunction with the square corners of the receptacle, produces a thorough and scientific agitation making it possible to churn in 6 to 15 minutes.

Perfectly sanitary, the receptacle being non-absorbent, and no cracks to harbor the cream and become rancid.

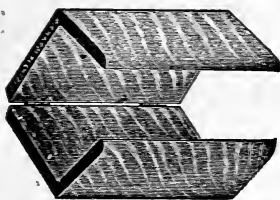
The receptacle and dash are very light and easily removed from the churn.

Durable because made of the very best steel and iron and with ordinary care will last for years.

1 gallon, Glass, \$3.50; 2 gallon, Metal, \$5.75; 3 gallons; metal, \$7.00. Weight, 10, 14 and 18 lbs. Add postage.

BUTTER MOLDS

All wood, brass hinges and screws. Price, 75c; weight, 1 lb.; add postage.



Ideal Family Butter Mold



IDEAL

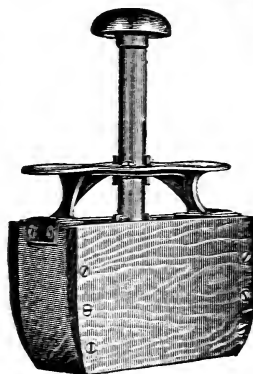
This printer is well made, durable, and where only a small amount of butter is to be printed, makes fully as satisfactory prints as one costing several times as much. The weight of the print may be quickly regulated by the two brass adjusting screws. Comes in two different patterns:

Western Style Print— $1\frac{1}{2} \times 3 \times 6\frac{3}{4}$ inches. \$2.00.
Eastern Style Print— $1\frac{1}{2} \times 2\frac{1}{2} \times 2\frac{3}{4}$ inches. \$2.00.
Weight, 2 lbs.; add postage.

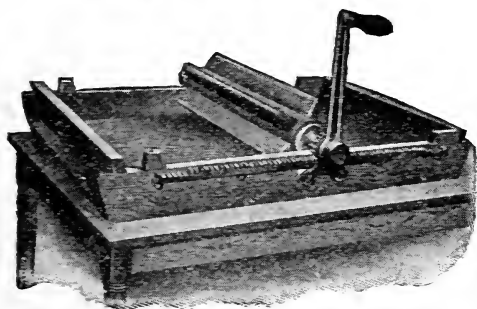
Up-to-Date Printer

Specially selected close grained hardwood; nicked brass trimmings. Size of prints quickly adjusted.

Printer to print pounds $4\frac{1}{2} \times 2\frac{1}{2} \times 2\frac{3}{4}$ in. Each, \$6.00; weight, 4 lbs.; add postage.



Wizard Butter Worker

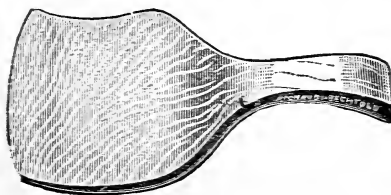


This style butter worker is a favorite with many. Butter is placed in the tray, salt added then worked by turning the crank, which causes the fluted roller to travel to and fro. The metal parts are all galvanized to prevent rust. Cut shows worker set on table, but prices below are for worker only without legs.

No. 3—Size, 17×29 in. and 3 in. deep inside, capacity 20 lbs.; weight, 25 lbs. Price, \$10.75.

No. 4—Size 14×23 in. and $2\frac{1}{4}$ in. deep inside, capacity, 10 lbs.; weight, 20 lbs. Price, \$9.50.

Butter Ladles



Dairy Spoon

Corrugated Butter Paddle— $2\frac{1}{4} \times 9\frac{3}{4}$, each, 25c.

Dairy Spoon—5x12, each, 40c.

Plain Butter Paddle—5x12, each, 35c.

Postage 5c extra.

Butter Color

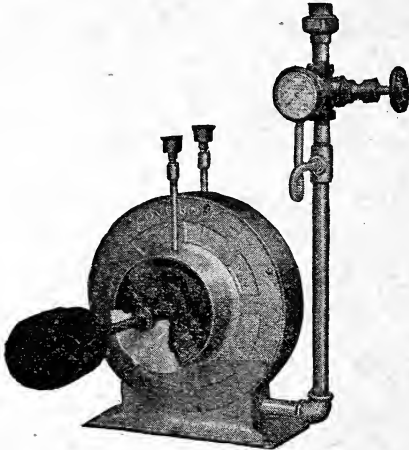
Wells & Richardson, bottles, 40c, 65c, \$1.25.
Add 5c additional for postage.

Gallon cans, \$6.25. Weight, 12 lbs. Add postage.

MILK BOTTLES

Half Pints, doz., \$1.00; gross, \$9.35.
Pints, doz., \$1.25; gross, \$11.65.
Quarts, doz., \$1.50; gross, \$15.00.
Not mailable.

TURBINE BOTTLE WASHERS



THE 20TH CENTURY

This bottle washer is made with a new gearless turbine, the speed being controlled by the governor. When the speed of the turbine reaches a certain point the governor operates to prevent the speed exceeding the limits of safety. This governor is in a separate case to keep out the moisture, which would have a tendency to cause the bearings to rust and cause it to act too slowly. The cover to this case can be removed in a moment and the speed adjusted at any desired point.

The brush spindle is so constructed that it will hold the brush handle firmly, and when it is desired to replace worn out brushes with new ones, a few seconds' time is all that is required.

The machine is heavily galvanized and is fitted with compression grease cups, bronze gears and bearings, special steam gauge and syphon, globe valve, and all necessary pipes and couplings. Price, \$47.50.

BOTTLE CAPS

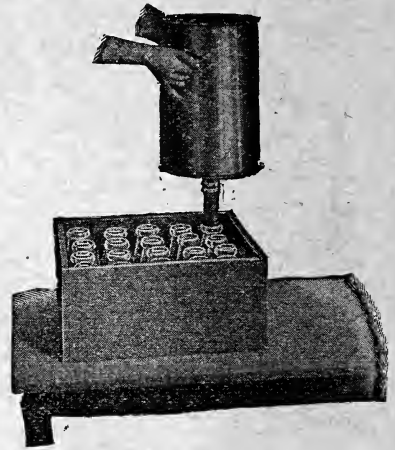


BOTTLE CAPS—No lift, 75c per 1000; Perfection, with lift, 85c per 1000.
Special prices on barrel lots of 50 M, printed with your name.

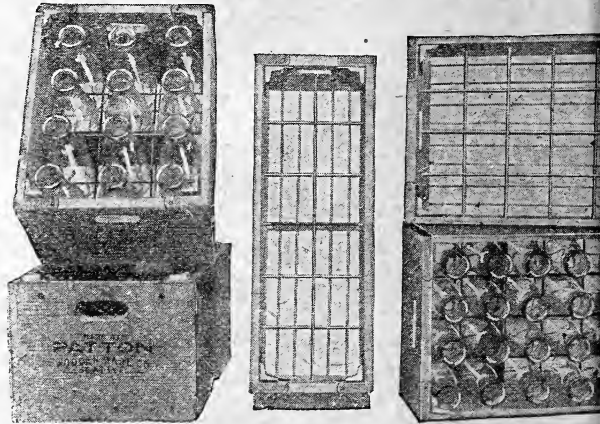
Weight per M., 3 lbs. Add postage.

SINGLE VALVE FILLER

The cut herewith is of a very simple and practical bottle filler for filling bottles one at a time and suitable for dealers filling 50 to 300 bottles per day. It consists of a cylindrical can having a stiff, heavy bottom to which is attached a standard bottle-filling valve. The operation is easily understood from the cut. Bottles can be filled in delivery cases or when setting on table or bench. Fills all bottles to an even height, no topping or refilling. Valve can be taken apart for cleaning in less than five seconds. Price, tin can, no case furnished, \$17.50.



BOTTLE DELIVERY CASES



12-quart, \$2.00; weight, 13 lbs.; add postage.
20-pint, \$2.00; weight, 11 lbs.; add postage.
20 half-pint, \$2.25; weight, 13 lbs.; add postage.
Quart and pint sizes, 1/2 doz, \$11.50; doz., \$22.50. Half-pint size, 1/2 doz., \$13.00; doz., \$25.00. Weight, 12 lbs. each. Add postage.

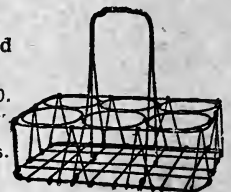
BOTTLE CARRIERS

Galvanized, with improved handles.

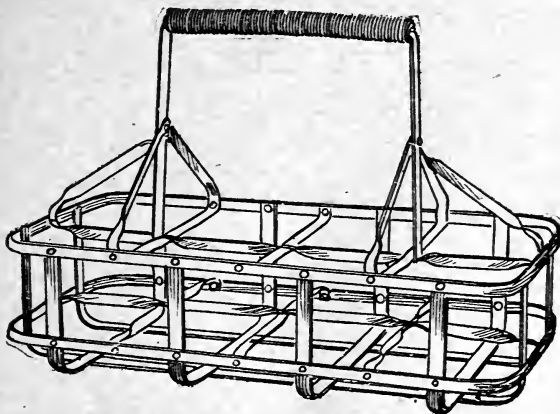
12 bottles, 1/2 pints, ea. \$1.50.

6 bottles, pints, each \$1.25.

Weight, 3 lbs. and 4 lbs. each; add postage.



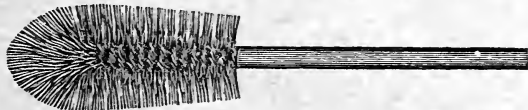
BOTTLE CARRIERS—Continued



These Carriers are made from $\frac{3}{8}$ -inch Cold Rolled Flat Steel Wire, Riveted in each intersection and Hot Galvanized after made. They are constructed for carrying quart bottles and have a lower partition so that they will hold pint bottles also. Two sizes; hold 6 and 8 quarts. Price, \$2.00 and \$2.50. Weight, 8 lbs. and 10 lbs; add postage.

BRUSHES—Bottles, Milk

Add 5c to all brushes if forwarded by mail.



No. 72—Black china bristle, brush part $2\frac{3}{4}$ -in. diameter, 6 inches long; handle, 9 in. Price, 55c.



No. 73—See description bowl brush No. 73. Price, 55c.



No. 86—See description bowl brush No. 72, with exception of stiff bristle and better quality. Price, each, 60c.



No. 123—Machine brush, extra stiff gray hair; brush part 3 inches diameter and $6\frac{1}{2}$ inches long. Taper handle, 6 inches. Price, 65c.

Bottles, Test



No. 60—Stiff bristle body and tufts, brush part $3\frac{3}{4}$ inches wide, $2\frac{1}{4}$ inches thick, 7 inches long, hardwood handle, $\frac{1}{2}$ inch diameter; 10 inches long. Price, 45c.



No. 1—For Babcock 10% milk bottles; white bristle; brush and handle $7\frac{1}{2}$ inches. Price, 20c.



No. 107—For Babcock cream bottles; white bristle in body and tuft; length over all, 11 in. Price, 30c.

Bowl

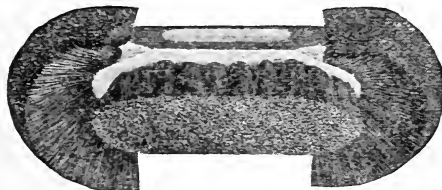
No. 104—De Laval, small, black china bristle; brush part $\frac{3}{4}$ inch diameter, $2\frac{1}{2}$ inches long; length over all $8\frac{1}{4}$ inches. See cut can brush No. 104. Price, 20c.

No. 72—Black china bristle; brush part $2\frac{3}{4}$ inches diameter, 6 inches long; handle 9 inches. See cut milk bottle brush No. 86. Price, 55c.

No. 47—Black Tampico. Brush part $3\frac{1}{4}$ inches diameter, $5\frac{1}{2}$ inches long; length over all $13\frac{3}{4}$ inches. See cut can brush No. 47. Price, 65c.

No. 73—Black China Bristle; brush part $3\frac{1}{4}$ inches diameter, 6 inches long, hickory handle, $\frac{1}{2}$ inch diameter; 9 inches long. See cut milk bottle brush No. 73. Price, 55c.

Can



No. 08—Stiff Palmetto Fibre; length on face, 9 inches; width on face, 5 inches. Price, 60c.



No. 412—Palmetto fibre, straight handle, brush part 4 inches diameter, $5\frac{1}{2}$ inches long; length over all, 24 inches. Price, \$1.00.



No. 47—See description bowl brush No. 47. Price, 65c.

Spout



No. 104—See description bowl brush No. 104. Price, 20c.



No. 12—Extra stiff gray bristle; brush part 5 inches by 2 inches diameter; length over all, 13 inches. Price 35c.

Milk Coolers



No. 286—Palmetto fibre, covered handle, 14½ inches long. Price, 65c.

Add 5c to all brushes if forwarded by mail.

RUBBER RINGS

No. 3033—For No. 5, 10, and 12 DeLaval Separators. Each, 15c.

No. 3557—For No. 15 DeLaval Separators. Each, 15c.

No. 1, 1B, 2 and 2B Empires. Each, 15c.

Balls, Steel

or Empire Separators, 20c each.

Points, Steel

For Empire Separators, 20cc each.

No. 3072—For No. 5, 10 and 12 DeLaval Separators, old style, 2 for 25c.

No. 4110—For No. 12 and 15 DeLaval Separators, new style, 2 for 25c.

MILK CAN SEALS

Seal your cans; insure yourself against loss, at a very small cost.

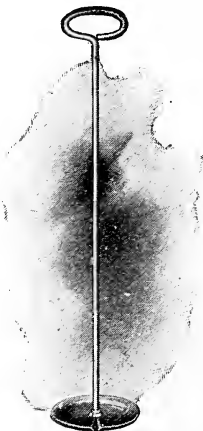
Lead, single wire, 100, 35c; 500, \$1.50; 1000, \$2.50.

Seal press, each, \$2.75; weight, 2 lbs.; add postage.

Duro Stirrer and Sampler



Sampler



Stirrer

Both Sampler and Stirrer have saucer-shaped disc of steel firmly attached to wrought iron handle of sufficient length to reach bottom of 10-gallon can. First agitate vigorously, then lift straight up. Sampler bowl holds sufficient amount for sample and has lip for easy pouring into cup or sample jar. Stirrer bowl is punched with five holes, which makes stirring more efficient. Each, 60c; weight, 2 lbs.; add postage.

THERMOMETERS

Thermometers and all glassware are packed in the most careful manner, but owing to the great liability of breakage when sent by parcel post we will not guarantee their safe delivery nor be responsible in case of breakage. To avoid loss the best plan is to have them insured, and if you so desire, include insurance with your remittance.

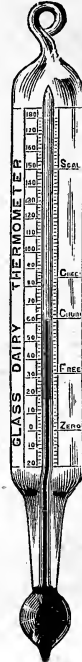
Glass Floating, Best Grade

5700—Churn Thermometer, glass cylinder, hand written paper scale, 1° graduation, accurate within one division of the scale, mercury tube, shot weighted, guaranteed to float upright. Approximate scale range, 10° to 110° F., 10 inches. Price, \$2.25; postpaid, \$2.35.

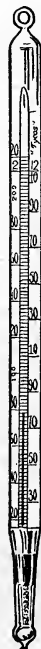
5701—Pasturizing Thermometer, glass cylinder hand written paper scale, 2° graduation, accurate within one division of the scale, mercury tube. Approximate scale range, 30° to 220° F., 10 inches. Price, \$2.25; postpaid, \$2.35.

Ordinary Grade

5715—All glass floating Churn and Pasteurizing Thermometer. Approximate scale range 20° below zero to 150° above. Length, 8 in. Mercury filled. Price, \$1.00; postpaid, \$1.10.



5715



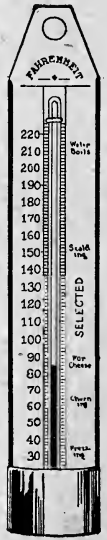
5700



5701



5705



5740

Selected Common Grade

5740—Spirit, selected common grade. Nickeled sliding guard; red liquid tubes. Price, \$1.00; postpaid, \$1.10.

5705—Flanged, metal scale Churn and Pasteurizing. Ten-inch electro silver plated strops and screws; magnifying, filled tube, sliding guard. Scale, zero to 220° F. Price, \$2.00; postpaid \$2.10.

Anti-Cow Kicker

Save your temper, your cows, your milk. Does not excite the cow, nor disturb the flow of milk. Indispensible for breaking heifers. Cows with sore teats, or vicious kickers. Can not wear out. Put on or off in 15 seconds. Guaranteed to be an absolutely perfect anti-kicker or put on loosely as hobble for cow, horse or mule. Price, \$1.50; postage extra. Weight, 2 lbs.

Wagner's Calf Weaner



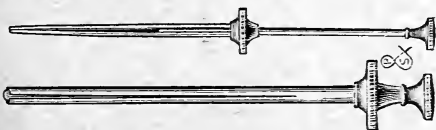
A perfect, humane and effective device. The hinge construction of this article allows the calf and cow to graze in the same pasture, yet effectually prevents sucking. It is easily applied. Once used always used. KANT SUCK Weaners have no equal. Price, \$1.00.

CATTLE INSTRUMENTS

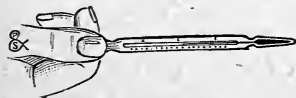
CATTLE TROCAR—Will promptly and safely relieve bloat. Every owner of cattle should have



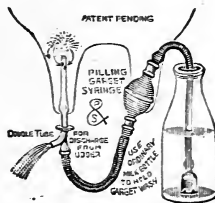
one on hand. Easy to use. Price, \$2.00; postpaid, \$2.10.



TEAT DILATOR—A finely made instrument, dilates without cutting. Nothing better made for this purpose. Price, \$1.50; postpaid, \$1.60.



FEVER THERMOMETER—The normal temperature of the horse is 99.3-5 degrees, of cow is 99 to 102 degrees. Every owner of stock should have a Fever Thermometer for immediate use when an animal is taken sick. You can thus distinguish whether or not it is a febrile (fever) disease, and if it is, proceed at once to give necessary medicine to prevent the fever rising. They are easy to use. These Thermometers are tested and registered. Price, \$2.50; postpaid, \$2.60.



GARGET SYRINGE—Has a special make of rubber tubing, which allows the flow to be continuous instead of intermittent. It also has a double channel metal tube. One part of this tube is to inject the Garget Remedy into the udder and the other part allows the fluid, dead germs and other impure matters to escape from the udder. On the other end of the rubber tube is fitted an improved strainer made of copper, which prevents hayseed or other foreign matter from entering the apparatus and clogging up the valves.

Pilling Garget Syringe Outfit. Consists of

Pilling Garget Syringe, Pilling Remedy (30 treatments). Pilling Animal Soap. Price, \$5.00; postpaid, \$5.10.



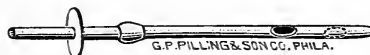
HARD RUBBER TEAT PLUG

Especially designed for two purposes: First, to prevent dropping of milk

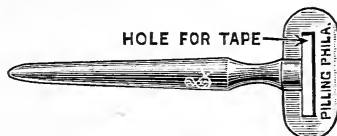
in cows where there is relaxation of the little muscles at the end of the teat and consequent leakage of milk; and, secondly, to dilate the canal of the teat above the muscle in cases where hard milking is due to the contraction of this part of the canal. Price, 65c; postpaid, 70c.



MILKING TUBE—Plain, plated 3 inches. Price, 40c; postpaid, 45c.



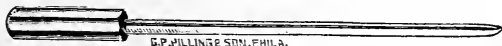
MILKING TUBE—Self-retaining, 3 inches, plated. Price, 50c; postpaid, 55c. 4 inches, 60c; postpaid, 65c.



TEAT EXPANDERS—Of metal, nickel-plated, is intended to expand and enlarge the opening of hard-milking teats. Also, at the same time, it expands the milk canal; it is considered the best method of treating hard milkers. Easy to use. Price, 60c; postpaid, 65c.



LEAD PROBE—For enlarging opening in the cow's teats. 30c; postpaid, 35c.



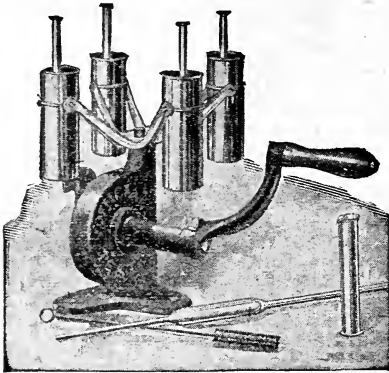
The Pilling Teat Opener is simply used as a reamer or dilator to pass the obstruction. It does not cut the obstruction. It is highly recommended by veterinary surgeons, dairymen and stock breeders, who have successfully used it for years. Price, 75c; postpaid, 80c.



MILK FEVER OUTFIT—Is made, according to specifications described in Farmers' Bulletin, 45, issued by the Bureau of Animal Industry, U. S. Department of Agriculture, except we do not use the rubber bulb, which so easily rots; but in its place we furnish, without extra charge, our patented Metal Pumps, which will last a lifetime.

Milk Fever Outfit Metal Pump and Regulator Tube, \$3.50; postpaid, \$3.60.

BABCOCK MILK TESTER

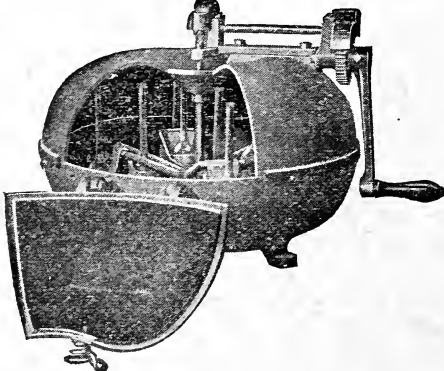


Many thousands of "Official" testers have been sold. It is used by dairymen, farmers, in hotels, restaurants and laboratories. It does accurate work, and with the instructions furnished anyone can make a perfect test. The most convenient and accurate of any low priced hand tester ever offered.

Made in two and four bottle sizes. Each tester includes a full set of bottles, pipette, acid measure, test bottle brush, acid and full directions for making tests.

- No. 1—2-bottle, milk only, \$7.00
 - No. 2—4-bottle, milk only, \$7.50.
 - No. 3—2-bottle, milk and cream, \$7.75.
 - No. 4—4-bottle, milk and cream, \$9.00.
- Order by number.

20th Century Milk Tester



This is an especially fine hand tester, and is built for dairies which are without the steam apparatus necessary to run a turbine tester. A speed of from 900 to 1,000 revolutions per minute can easily be obtained. All gears are encased and at the top of the machine; are milled in special milling machine; are absolutely accurate and therefore noiseless. The bottles are perfectly enclosed, doing away with danger from flying glass, acid, etc., should one of the bottles break. Complete with glassware, 8 bottles. Price, \$21.00.

ACID MEASURES

17—5 C. C. Each, 20c; ½ doz., \$1.00; doz., \$1.75.

TEST BOTTLES

Milk, 6-inch, 10 per cent. Each, 25c; ½ doz., \$1.40; doz., \$2.50.

Cream, 6-inch, 50 per cent, 18 gram. Each, 35c; ½ doz., \$1.75; doz., \$3.00.

Skim milk. Each, 75c.

Postage 5c extra.

PIPETTES

17—6 and 18 C. C. combined, each, 25c; ½ doz., \$1.25; doz., \$2.25.

Postage 5c extra.

We do not guarantee safe delivery of glassware.

ABSORBENT COTTON—An approved cotton for filtering milk, prepared in rolls, neatly wrapped and sealed. One 1-lb. roll, \$1.00; add postage.

LINEN STRAINER CLOTH is used to place above or below absorbent cotton to prevent the milk from tearing the cotton as it is emptied upon it. Price, per yard, 72 inches wide. Weight, 1 lb., \$1.00; add postage.

RED CROSS FILTER CLOTH—Is a specially woven cloth with the nap raised and is intended to take the place of ordinary cotton and strainer cloth, as it combines in itself the qualities of both. It is especially commended for use in filter vats, and can strainers. 1-lb rolls, 17 in. wide by 20 feet long, each, \$1.75; add postage.

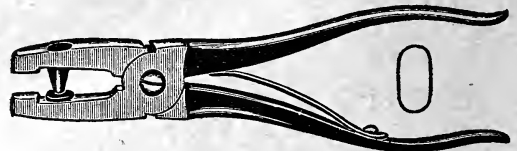
Nine inch squares packed 50 in box, \$42.00; add postage.

PARCHMENT BUTTER WRAPPERS

8x11—Plain 100, 25c; 500, \$1.15; 1000, \$2.00
Weight per thousand, 7 lbs.; add postage.

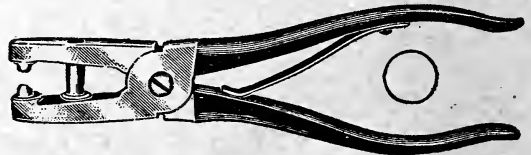
PUNCHES

Ear Label Punch



This punch is made for inserting the labels only. It is necessary to cut hole in ear and also to seal labels. Price, \$1.50; postpaid, \$1.55.

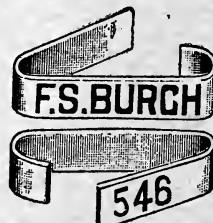
Combined Punch and Plier



This combined punch and pliers are especially made for adjusting the buttons. The cutter makes the necessary hole, and the nipples seal the button.

Each, \$1.50; postpaid, \$1.55.

EAR TAGS



EAR TAGS—Continued

	Sheep	Cattle
25 name and number	\$0.85	\$1.00
50 name and number	1.25	1.50
100 name and number	1.75	2.25
500 name and number	8.00	10.00
25 name only or number only .....	.75	.90
50 name only or number only	1.00	1.25
100 name only or number only	1.25	1.75
500 name only or number only	6.00	8.00

Name can be put on the one side, numbers on the other. Not more than 10 large size letters can be put on hog or sheep sizes, or fifteen on cattle. Mailing weight, 100 sheep size, 1 lb.; 100-cattle, 3 lbs. Add 5c per 100 or less number for postage.



IDEAL EAR BUTTONS

Are made of pure hardened aluminum, consisting of two parts or sleeves, thus giving an absolute seal that will not become loose.

25, \$1.50; 50, \$2.00; 100, \$3.75; 500, \$16.25.

Add 5c per 100 or less number for postage.



SALE TAGS

These tags are very popular with hog men for identification during sales, as they are easily fixed in the ear with the regular hog rings, made of aluminum.

25, 75c; 50, \$1.25; 100, \$2.50.

Add 5c for postage to above prices.

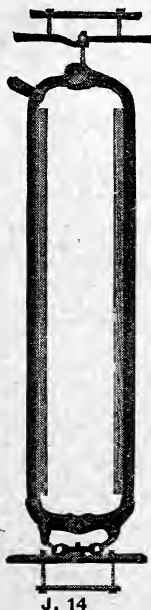
STANCHIONS

It is a recognized fact that the use of stanchions is the most approved way of confining milk cows in their stalls. It is true that safety and comfort are the points to be considered in selecting your stanchions, and it is also equally true that all stanchions do not offer these in the same degree. The J. 14 is equipped with Alignment Irons, Wood Lining, Double Chain Hanger, Anchor Plate, and Lock Open Device.

ALIGNMENT DEVICE—Adjusts the stanchion forward or backward in the stall lengthening or shortening the stall to fit the cow.

WOOD LINING—Is made of thoroughly seasoned birch, carefully milled, shaped, polished to a perfect smoothness.

DOUBLE CHAIN HANGER—Is attached to at the sides, where the strain all comes on the side bars; is made of specially annealed malleable iron, giving it remarkable strength; will not break or get out of order.



J. 14

ANCHOR PLATE—Set in the concrete curb, furnishes a firm anchorage, to which the stanchion is attached; is so designed that a bolt may be easily inserted or taken out.

LOCK OPEN DEVICE—This consist of a small chain attached to the loose arm of the stanchion, one link being inserted into a hook on the rigid post of the stanchion frame, making it impossible for the cow is disengage it.

J.20—Price, \$7.00.

K.15—The same stanchion exactly as J.14, with exception of alignment device.

Price, \$6.25.

Plates and bolts, 50c per stanchion.

Owing to market changes, we ask that you write for prices.

Stock Feed

The quotation made on stock feed are present market values. These are all subject to change. All feeds will be shipped at prices prevailing when goods are shipped. Write for prices in quantities.

Beet Pulp

This is conceded to be a great milk producer, and has never disappointed when compared and tested with other milk producing feeds.

Price, \$3.25. Write for price in ton lots.

Price subject to change.

Oil Meal

Cocoanut Meal

The advantages of feeding Oil Meal and Cocoanut Meal are well known.

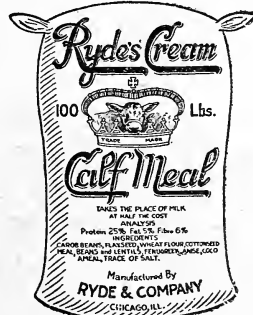
Oil Meal \$4.00

Cocoanut Meal 2.75

Write for ton prices.

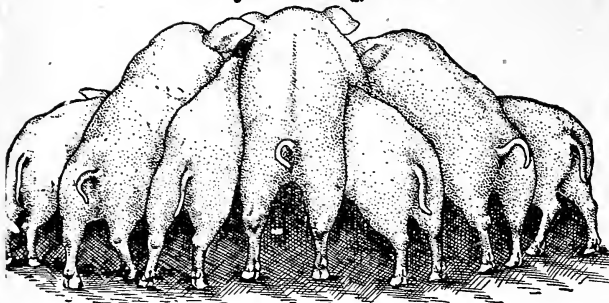
Ryde's Cream Calf Meal

The Great Milk Substitute



Ryde's Cream Calf Meal is the most successful milk substitute on the market—the standard of perfection. Thousands of farmers are using it and cannot say enough for it. It is NOT a stock food—it's a complete food that long experience has proved to be right for rearing calves. It contains all the nutrition of milk prepared in the most digestible form and is sold on a money back guarantee to give results. 100 lbs. equal to 100 gallons milk.

Ask for free booklet giving feeding instructions. Price: 25-lb. bag, \$2.00; 50-lb. bag, \$3.75; 100-lb. bag, \$7.25.

Ryde's Pig Meal

MAKING HOGS OF THEMSELVES

DIGESTER TANKAGE

Every well informed feeder knows that corn and other home grown feeding stuffs lacks protein and phosphates.

Brood sows must have plenty of protein and phosphates in their rations, otherwise they will farrow weak, puny pigs, defective in bone and muscle.

Price, 100 lbs., \$6.25; 500 lbs., \$30.50; 1/2 ton, \$59.00; ton, \$115.00.

STOCK TONICS**Conkey's**

HORSE REMEDY—A stimulating medicine for debilitated and exhausted conditions. \$1.20 per bottle; not mailable.

STOCK TONIC—It keeps up appetite, insures full digestion of the ration, prevents waste of feed, that is, brings you the most possible return for every pound of feed. Not a food itself, but a medicine. 30c, 60c, \$1.20; 12 lbs. (pail), \$2.25; mailing weight, 2 lbs., 4 lbs., 8 lbs., 17 lbs.; add postage.

Gold Coin

CATTLE TONIC—Feed Cattle Tonic for loss of appetite, to increase flow of milk, to cure scours, to aid in fattening and finishing of steers, to prevent and cure scour in calves. 60c packages; 25-lb. pail, \$3.75; mailing weight, 2 lbs.; 4 lbs., 30 lbs.; add postage.

HOG TONIC WORM EXPELLERS—A splendid stimulant for the internal treatment of hog cholera. 60c pkgs.; 25-lb. pail, \$3.75; mailing weight, 4 lbs., 30 lbs.; add postage.



HORSE TONIC—Horse Tonic hardens the muscles. It aids digestion. It purifies the blood and sleekens the coat. It clears the water, regulates the bowels, cures and prevents disease. Price, 60c and \$1.20 packages; 12 1/2-lb. pails, \$2.25; 25-lb. pails, \$3.75; mailing weight, 4 lbs., 7 lbs., 17 lbs., 30 lbs.; add postage.

RYDE'S PIG MEAL.

is the greatest pig developer on the market today. It contains every possible ingredient in the correct proportion that they require to push them forward to maturity in the shortest possible time. It is made for this purpose only, and contains every constituent that pigs require to nourish them properly and in the most digestible form. In composition and results it is the same as new milk, but at far less in cost of feeding.

25-lb. bag, \$2.00; 50-lb. bag, \$3.65; 100-lb. bag, \$7.00. Prices subject to change.

STOCK REMEDIES**Conkey's**

COLIC REMEDY—A lifesaver and should be on hand for emergency. 60c; postpaid, 65c.

DISTEMPER FEVER AND COUGH REMEDY—For all cases of cough, cold, chill and fever, epizootic, distemper or strangles, pink eye, etc. 60c; postpaid, 65c.

Eye Remedy, 60c; postpaid, 65c.

HEALING POWDER—A wonderful gall cure. For chafes, sores, etc. 30c; postpaid, 35c.

HEALING SALVE, 30c; postpaid, 35c.

HEAVE REMEDY—Corrects digestive disturbance as well as nervous derangement, \$1.20; postpaid, \$1.25.

HOOF REMEDY—Keep's your horse's hoofs in nice shape. Pt., 60c; postpaid, 70c.

WORM REMEDY, 60c; postpaid, 65c.

FEVER REMEDY, \$1.00; postpaid, \$1.05.

GALL SALVE—A healing ointment for sores, cuts, harness and saddle galls, chafes. 60c; postpaid, 65c.

**FLY KNOCKER—**

All the time your stock is pestered by flies you are losing your profits. Use it on your horses and cattle night and morning. Does not injure the hide; odor will not taint milk. Keeps flies off, kills every one it hits, prevents lice and grub. Qt., 75c; 2 qts., \$1.25; gal., \$2.00. Not mailable.

Gold Coin

GOLD AND DISTEMPER REMEDY—A specific for distemper in young or old horses. Pkg., 60c; postpaid, 70c.

COLIC REMEDY—Cures wind colic, bloat, spasmodic colic stoppage of urine, etc. Bottle, 60c. Not mailable.

COMPOUND LINIMENT—Rub the affected parts thoroughly with the liniment. Bandage only when a blister is desired. Bottle, 60c. Not mailable.

STOCK REMEDIES—Continued

CONDITION POWDER—For sick animals. A high class medicine for fevers and all acute diseases. Package, 60c; postpaid, 70c.

COUGH AND LUNG SYRUP—This is a cough syrup for horses, cattle, sheep or hogs. It is important to attend to all lung diseases promptly. Bottle, 75c and \$3.50. Not mailable.

FOOT REMEDY—Quickly cures sore feet, lameness from corns, sand cracks, quarter cracks, contracted heels, etc. Can, 60c. Not mailable.

Fly Blister, \$2.00; postpaid, \$2.05.

FLY KILLER—All the time your stock are bothered by flies you are losing your profits. Use it on your horses and cattle night and morning. Does not injure the hide, odor will not taint milk. Keeps flies off, kills very one it hits, prevents lice and grub. Qt., 60c; 2 qts., \$1.00; gal., \$1.75. Not mailable.

GALL SALVE—For sores on neck, shoulders and back from rubbing of harness or saddles. All cuts or wounds on horses. Can, 30c, 60c; 35c and 65c postpaid.

HEALING OIL—For barb wire cuts, nail injuries, burns, flesh wounds or cuts. Bottle, 30c and 60c. Not mailable.

HEAVE REMEDY—It is the best and cheapest heave cure. Package, 60c; postpaid, 70c. Hoof Ointment, \$1.00; postpaid, \$1.10.

LUMP JAW—Cures the disease known as lumpy jaw, which is due to a micro-organism. \$2.00; postpaid, \$2.05.

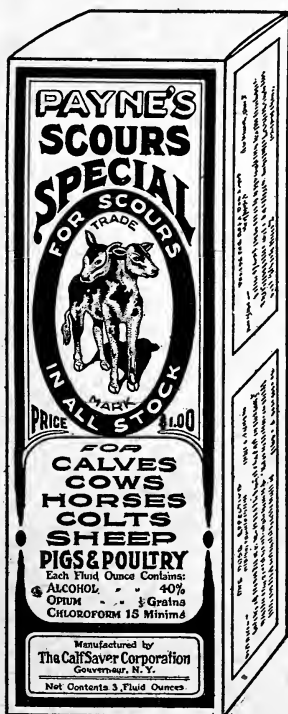
SOAP—HARNESS—For cleaning and polishing harness, buggy tops. Can, 30c; postpaid, 40c.

SPAVIN REMEDY—For curable spavins. Quickly reduces all soft swellings as "bog" spavin, blood spavin, swollen joints, inflammation, etc. Bottle, \$1.50. Not mailable. Put up also in paste form, \$2.00.

WORM POWDER
—Kills all worms and bots in horses, hogs, sheep, dogs, etc. Package, 60c; postpaid, 70c.

Payne's Scours Special

It is well known that scours in calves is a source of great annoyance and loss. This should be given immediate attention, so that it may be the more easily checked. Payne's Scours is also used for cows, horses, sheep, pigs and poultry. Full directions on each bottle. \$1.20. Not mailable.



B-K



B-K is a very powerful disinfectant but not a poison. It is much stronger than coal tar disinfectants. It is cheaper to use than other disinfectants because of its great strength and the amount of dilution that can be used. It is odorless and colorless. Very largely used in stables and by our large dairies and creameries. 1 gallon, \$3.00; 5 gallons, \$12.50.

Wyandotte



This is the great cleaner and cleanser used by nearly all dairymen and creameries. This is specially prepared for the purpose for which it is used, and the best recommendation it has comes from those who have used it and compared results obtained from the use of this and other similar preparations. It is conceded to be the best preparation of its kind manufactured. 5-lb. bags, 60c; 80-lb. kegs, \$7.00; 280 lb., barrels, \$21.70.

Alkali Special, 300 lbs., \$29.25.

BEE SUPPLIES

DOVETAILED HIVES—The dovetailed hive is now the leading hive, as it contains many of the most desirable features of the various hives for the rapid handling of bees, and is one of the cheapest and best hives manufactured.

DESCRIPTION—The body is $\frac{7}{8}$ inch thick, and is fitted with metal rivets of an improved style. Outside of body is $13\frac{3}{4} \times 20$ inches, and $9\frac{1}{2}$ inches long. The body holds eight Hoffman frames, L size, and a division board. The frames hang below the top edge of the hive, so that there is a bee space above them, but the bottoms of the frames are flush with the bottom edges of hives, the bee space being made by the projection of the sides and can be enlarged or decreased by inverting bottom board. The bottom is 14×21 inches. The cover is made with grooved cleats at each end to prevent warping. The supers are the same size as the body of hive, but only half the depth, so that when two are put together they make a full-depth body. The inside width of the body is $12\frac{1}{2}$ inches, giving room for eight frames and a division board. There are objections to using sections other than $4\frac{1}{2} \times 4\frac{1}{2}$, as they require special sized shipping cases and special sized cartons.

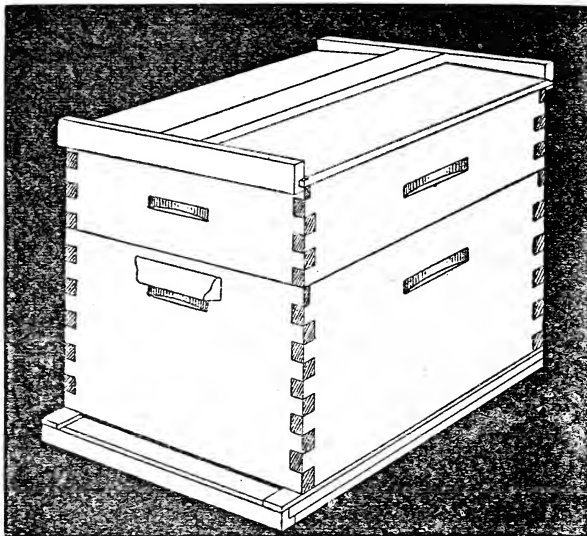
Complete hive consists of 1 body, 1 super, 1 bottom board, 1 cover, 8 Hoffman brood frames, 2 wedges for super, 6 section holders, 6 slotted separators.

Eight-Frame Hive

1 story hive, nailed, no division board, \$4.75; 5 K. D., \$21.00. Weight, 23 lbs.; add postage.
 1½ story hive, nailed, no division board, \$6.00; 5 K. D., \$28.00.
 1 super, shallow, nailed, no division board, \$1.75; 5 K. D., \$7.00. Weight, 10 lbs.; add postage.
 1 super, 5¼-in. deep, nailed, no division board, \$2.00; 5 K. D., \$8.00. Weight, 10 lbs.; add postage.

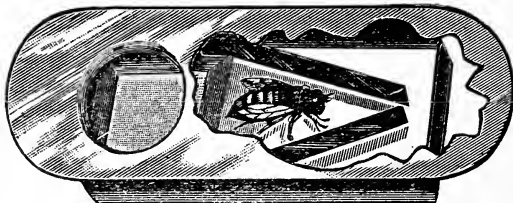
Ten-Frame Hive

1 story hive, nailed, no division board, \$5.25; 5 K. D., \$25.00. Weight, 10 lbs.; add postage.
 2.00; 5 K. D., \$8.00. Weight, 25 lbs.; add postage.



1½ story hive, nailed, no division board, \$7.00; 5 K. D., \$32.00.
 1 super, shallow, nailed, no division board, \$2.00; 5 K. D., \$8.00. Weight, 25 lbs.; add postage.
 1 super, 5¼-in. deep, nailed, no division board, \$2.25; 5 K. D., \$9.00. Weight, 10 lbs.; add postage.
 Division boards for brood chamber. 10, \$1.75; 50, \$3.00; 100, \$15.00. Weight each, lb.; add postage.
 Division boards for deep supers. 10, \$1.50; 50, \$6.50; 100, \$12.50. Weight each, lb.; add postage.
 Section holders, slotted. Each, 8c; 50, \$3.75; 100, \$7.00. Weight, 100, 35lbs.; add postage.
 Slotted separators. Each, 5c; 50, \$1.75; 100, \$3.25... Weight, 100, 8 lbs.; add postage.
 Spring steel hive tool. Each 75c; postpaid, 80c.
 Super followers. Doz., \$1.00; 50, \$3.50; 100, \$6.00.
 Super springs. Doz., 30c; 50, \$1.00; 100, \$1.75.

Bee Escapes

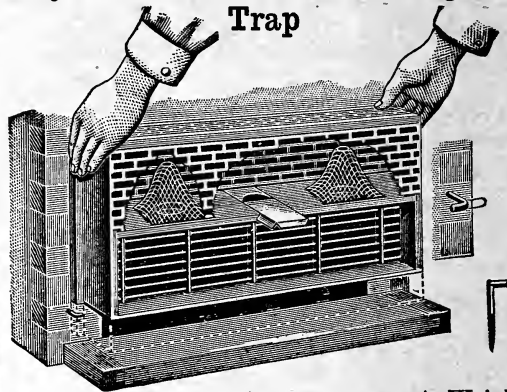


Porter

No apiarist can afford to be without bee-escapes. In taking off honey it is the greatest labor saving device that has been introduced in late years. It avoids shaking heavy spurs to get the bees out. Single, 25c; single, with

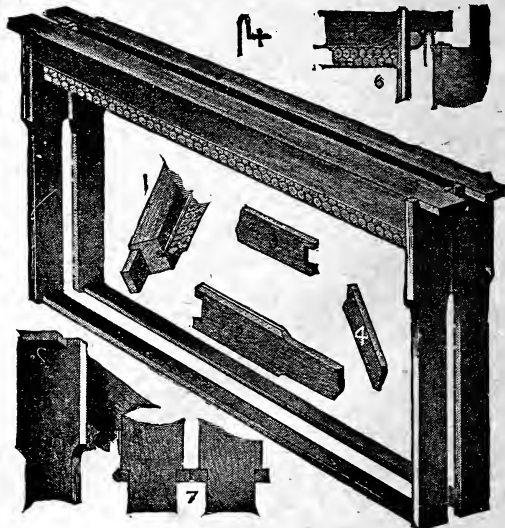
board, 60c; double, 30c; double, with board, 65c. Add 5c for postage.

Alley's Combined Drone and Queen Trap



A perfect non-swarming arrangement. Weight 1 lb. 75c; postpaid, 80c.

Brood Frames



The Hoffman Improved Foundation Fastening Frames are the latest and best brood frames. The top bar is made with a beveled strip which holds the foundation in place, perfectly straight and exactly in center to top bar. It seems to combine in itself nearly all the good features and for a hanging frame it is the best self-spacer we know of. It economizes labor in that it can be handled in groups of three or four; and any particular frame can be removed without thumbing over nearly all the other frames in the hive to get room. Price, 8, \$1.00; 50, \$6.25; 100, \$12.00. Weight, per 100, 50 lbs. Add postage.

Shallow Extracting Frames: Price, 8, 75c; 50, \$4.25; 100, \$8.00... Weight of 100, 25 lbs. Add postage. Metal Spacers only, 100, 90c.

BRUSHES



Cogshalla

BRISTLE—This is a strong, durable brush, made of black bristles. Price, 50c; postpaid, 55c.

BRUSHES—Continued

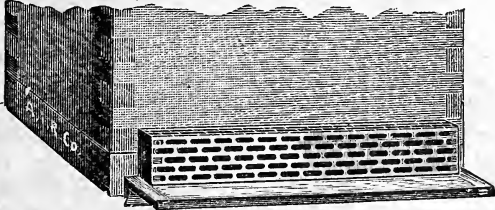
COGSHALL'S—This is a sort of whisk broom especially adapted and made for brushing bees. The strands are thinned out and longer, so as to give a soft pliable sweep to the combs. 40c; postpaid, 45c.

Comb Foundation

Size of Sheet	No. to lb.	Per lb.	Per 5-lb.	Per 10-lb.
73—Medium Brood, $7\frac{7}{8} \times 16\frac{7}{8}$..	7	\$1.05	\$1.03	\$1.00
75—Light Brood, $7\frac{7}{8} \times 16\frac{7}{8}$	9	1.10	1.08	1.05
80—Thin Super, $3\frac{3}{4} \times 15\frac{1}{2}$	28	1.15	1.13	1.10
82—Ext. Thin Super, $3\frac{3}{4} \times 15\frac{1}{2}$	30	1.20	1.23	1.20

Add postage.

Entrance Guards



These are to admit workers, and to exclude drones. After the drones are all out, fix guards over the entrance and at night the drones can be destroyed. For 8 and 10 frame hives. 30c; by mail, 35c.

Extractors

Cowan's Rapid Reversible Honey Extractor.

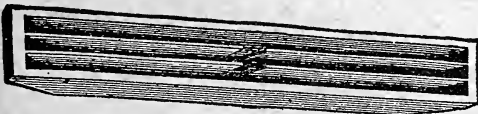


Two-frame Cowan's Reversible for Regulating Frames. Price, \$40.00.

If there is any one thing that is more essential to the successful manipulation of bees, aside from a good bee smoker, that one thing is a good honey extractor. If you have but ten colonies of bees it will pay you to have an extractor. Indeed, it would pay for itself in one good season, as oftentimes the brood combs become so filled with honey that the queen is crowded for room, and this honey should be extracted, and could be sold in the extracted form or used in feeding back for completing partly filled sections. Made of best steel.

Feeding

Bees are fed for two purposes: to stimulate brood-rearing or to supply them with necessary stores for winter. For stimulating, a pint to a pint and a half of syrup daily either at the entrance at night or inside the hive should be given until the required amount of brood is reared. In preparing for winter it is better to give the necessary stores all at one feed. The feeder should be filled with syrup by mixing together granulated sugar and water in equal proportions by measure and stirring or heating until thoroughly dissolved.

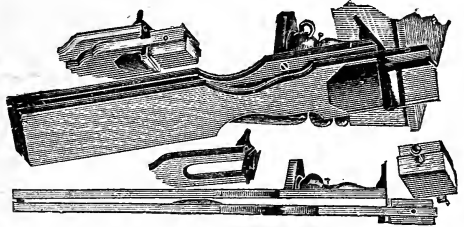


SIMPLICITY

The Simplicity may be placed at the entrance at night, over the brood frames, by placing on top of the hive or in the brood-nest itself, if a couple of frames are removed. 25c; by mail, 30c. 20c.

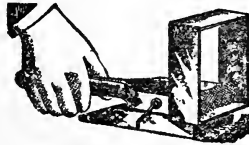
MILLERS—Sets on hive like a super. Holds about 25 lbs. of syrup. K. D. 65c; postpaid, 70c.

Foundation Fasteners



DAISY

This is the best for putting starters into sections. Nothing could be more simple or more easily operated than this machine. With this a boy or girl will put starters in about 500 sections per hour. Weight, 6 lbs.; without lamp, \$2.00; with lamp, \$2.50; add postage.



PARKERS

The Parker Fastener is a cheap machine for fastening starters. With a little practice it can be made to work very satisfactorily. Price, 50; postpaid, 55c.

Gloves



Gloves for protection of the hands and wrists are almost indispensable.

Canvas with sleeves, medium and large, \$1.50; postpaid, \$1.55.

HIVE TOOL—Price, 75c; postpaid, 80c.

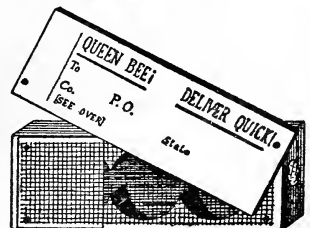
Honey Knife



Price, \$1.75; postpaid, \$1.80.

Queen Cages

The cover, to insure prompt delivery, is printed in exact fac simile of cut. On the reverse side are printed directions for introducing Queens, Benton, 10c each.



Queen Excluding Zincs

This is used between the upper and lower stories, to prevent the queen going up above. It is also used in making entrance guards, queen and drone traps, etc.

For 8-frame hive, unbound, 12x19. 50c.

For 8-frame hive, wooden bound, 13 $\frac{3}{4}$ x20. 60c.

For 10-frame hive, unbound, 14x19. 60c.

For 10-frame hive, wooden bound, 16x20. 70c.
Add 5c each for postage.

WOOD AND FIBRE HONEY BOARD

8-frame, 7 wire-and-wood, 13 $\frac{3}{4}$ x20. Price, 85c.

10-frame, 7 wire-and-wood, 16 $\frac{1}{4}$ x20. Price, 95c.

Add 5c each for postage.

Owing to the uncertainty of the price of zinc, prices quoted for all items which include zinc in their make-up are not guaranteed and items will only be sent out at prices prevailing when order is filled.

Bee Books

The Amateur Bee Keeper, by Prof. J. W. Rouse, 80 pages, 50c; postpaid, 55c.

The A B C and X Y Z of Bee Culture, by A. I. Root, \$3.25; postpaid, \$3.35.

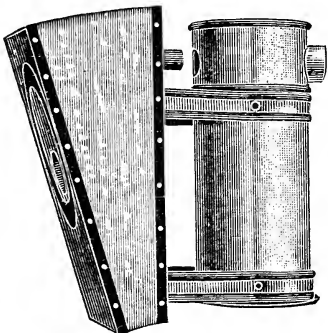
Section Honey Boxes

No. 1 SECTIONS—Are made of the choicest white basswood lumber, and all are perfect in finish and free from defects. They are not all snow-white, but vary from that to light cream colors. Price, per 25, 75c; 100, \$2.50; 500, \$11.50; 1000, \$22.00; weight, 7 lbs. per 100; add postage.

No. 2 SECTIONS—Selected from the best grade, sell at a price less than the No. 1. Most of them are equal to No. 1 except in color; some have dark spots, saw marks, or other blemishes which excludes them from the No. 1 grade. Price per 25, 70c; per 100, \$2.25; per 500, \$11.00; per 1000, \$21.50; weight, 7 lbs. per 100; add postage.

Smokers

Every bee keeper needs a smoker. A little smoke puffed in at the entrance of a hive before opening it causes the bees to fill themselves with honey, and with their honey sacs well filled they become docile and their hive can be opened without much risk of the manipulator being stung.



Acme.

Acme—This is undoubtedly the best Cold Blast Smoker on the market. It has no tube in the fire box to clog. It throws a large volume of smoke at RIGHT angles to the fire box without a curved nozzle to lessen the blast. In fact, it is the perfection of smokers.

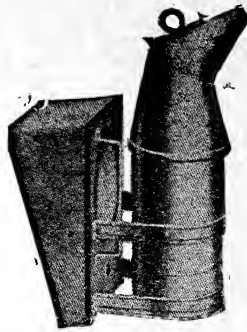
Price, \$1.25

Weight, 2 lbs.

Add postage.

BINGHAM—This is a strong, well-made smoker; does not clog up and will burn any fuel. This smoker resembles the Higginville very much in appearance. In the Higginville the nozzle or detachable snout fits over the outside of the smoker, while in the Bingham it fits on the inside. In the Higginville the nozzle is not attached to the smoker, while in the Bingham the nozzle is attached by means of an open hinge, but can be removed at will.

Price, \$1.75. Weight, 2 lbs.; add postage.



Higginville

This smoker is, as its name implies, strictly a Higginville product. It is a hot blast, and has a 3 $\frac{1}{4}$ -inch fire box, and the nozzle is detachable to admit of filling or cleaning. It has as strong a blast as any smoker made. Price, \$1.50. Weight, 2 lbs. Add postage.

Veils

A great necessity and very cheap. Cotton; silk face. \$1.50; postpaid, \$1.55.

Globe—Has five bars that will keep veil away from head. Price, \$1.75; postpaid, \$1.80.



Globe.

Swarm Catcher

This swarm catcher is the best article of its kind on the market, and it will be found a valuable addition to the appliances of the apiary. Without pole. Price, \$2.75. Weight, 3 lbs.; add postage.

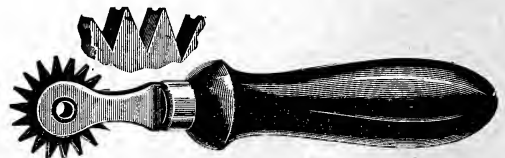
Wax Tube Fastener



VAN DEUSEN

For fastening the foundation sheets to thin top-bars there is nothing better than the Van Deusen wax tube. It is simply a brass tube half an inch in diameter, six inches long and tapering. This is filled with hot wax and the point is then slowly drawn along the edge of the foundation in contact with the top-bar, leaving a fine stream of hot wax to cement it. 30c; by mail, 35c.

Wire Imbedder



The latest spur wire imbedder is a most decided improvement over the old one. The teeth are wider and grooved in the direction of the circumference midway across front of teeth, so that the wheel will easily follow the wire. 50c; by mail, 55c.

Wire

No. 30 Tinned Wire seems to be the most suitable of any for wiring frames.

$\frac{1}{4}$ -lb. spools, each, 25c

$\frac{1}{2}$ -lb. spools, each, 40c.

1-lb. spools, each, 65c.

Postpaid, 30c, 45c, 75c.

THE INLAND SEED CO. SPOKANE, WASH.

THE INLAND SEED CO. gives no warranty, express or implied, as to description, purity, productiveness or any other matter of any seeds, bulbs, plants or roots they send out, and they will not be in any way responsible for the crop. If the purchaser does not accept the goods on these terms they are at once to be returned.

Total - - \$.....

Express or Freight Office Date 19

Lot No	Pounds	Ounces	Packets	NAMES OF SEEDS WANTED	PRICE	
					Dollars	Cents

SEE PAGE 2 FOR OUR SPECIAL OFFERS

[illegible]

In making your order, please give the price, to avoid delay and error.

NUMBER OF PLANTS TO ACRE

Dist. Apart	Plants	Dist. Apart	Plants	Dist. Apart	Plants	Dist. Apart	Plants
12x 1 in.	522,270	25x18 in.	15,520	36x36 in.	4,840	60x60 in.	1,745
12x 3 in.	174,240	30x 1 in.	209,088	42x12 in.	12,446	8x 1 ft.	5,445
12x12 in.	43,560	30x 6 in.	34,848	42x24 in.	6,223	2x 3 ft.	1,815
16x 1 in.	382,040	30x12 in.	17,424	42x36 in.	4,148	8x 8 ft.	680
18x 1 in.	348,480	30x16 in.	13,068	48x12 in.	10,890	10x 1 ft.	4,356
18x 3 in.	116,160	30x20 in.	10,454	48x18 in.	7,790	10x 6 ft.	726
18x12 in.	29,040	30x24 in.	8,712	48x24 in.	5,445	10x10 ft.	435
18x18 in.	19,360	30x30 in.	6,970	48x30 in.	4,356	12x 1 ft.	3,630
20x 1 in.	313,635	36x 3 in.	58,080	48x36 in.	3,630	12x 5 ft.	736
20x20 in.	15,681	36x12 in.	14,520	48x48 in.	2,723	12x12 ft.	302
24x24 in.	10,890	36x18 in.	9,680	60x36 in.	2,901	16x 1 ft.	2,722
24x 1 in.	261,360	36x24 in.	7,260	60x48 in.	2,178	16x16 ft.	170

QUANTITY OF SEED TO ACRE

Alfalfa	8 to 15 lbs.	Rye Grass, Oat Grass, Fescue Grasses.....	30 lbs.
Alsylke	6 to 15 lbs.	Orchard Grass	20 to 30 lbs.
Artichoke, 1 oz. to 500 plants.....	6 oz.	Horse Radish Roots	15,000 to 20,000
Asparagus, 1 oz. to 500 plants	1 lb.	Kale, 1 oz. to 150 feet of drill	1 lb.
Barley	60 to 75 lbs.	Kale, thousand headed	1 lb.
Beans, Dwarf, 1 lb. to 100 feet of drill.....	50 lbs.	Kohl Rabi, 1 oz. to 150 feet of drill.....	2 lbs.
Beans, Tall, 1 lb. to 150 hills	25 lbs.	Kaffir Corn	6 to 8 lbs.
Beet, garden, 1 oz. to 50 feet of drill	5 lbs.	Leek, 1 oz. to 100 feet of drill	4 lbs.
Beet, sugar, 1 oz. to 50 feet of drill.....	5 lbs.	Lettuce, 1 oz. to 150 feet of drill	3 lbs.
Beet, Mangel Wurzel, 1 oz. 50 ft. drill.....	5 lbs.	Melon, Musk, 1 oz. to 60 hills	2 to 3 lbs.
Broccoli, 1 oz. to 2,000 plants.....	4 oz.	Melon, Water, 1 oz. to 30 hills.....	3 to 4 lbs.
Brussels Sprouts, 1 oz. to 2,000 plants.....	4 oz.	Millet	30 lbs.
Broom Corn	12 lbs.	Nasturtium, 1 oz. to 50 feet of drill.....	15 lbs.
Buckwheat	45 lbs.	Oats	75 lbs.
Cabbage, 1 oz. to 1,500 plants	½ lb.	Okra, 1 oz. to 100 feet of drill	8 lbs.
Carrot, 1 oz. to 125 feet of drill	3 lbs.	Onion, 1 oz. to 100 feet of drill.....	4 to 8 lbs.
Cauliflower, 1 oz. to 2,000 plants.....	3 oz.	Onion, for sets	30 to 40 lbs.
Celery, 1 oz. to 5,000 plants	1 lb.	Onion Sets, 1 lb. to 75 feet of drill.....	400 lbs.
Chicory, 1 oz. to 100 feet of drill	4 lbs.	Parsley, 1 oz. to 300 feet of drill.....	3 lbs.
Clover, White	6 to 10 lbs.	Parsnip, 1 oz. to 200 feet of drill.....	6 lbs.
Clover, White, for lawns.....	25 to 100 lbs.	Peas, Garden, 1 lb. to 50 feet of drill.....	60 lbs.
Clover, Red and Crimson.....	12 to 20 lbs.	Peas, Field	100 lbs.
Clover, sweet, hulled.....	15 lbs.	Pepper, 1 oz. to 100 plants.....	400 to 600 lbs.
Clover, sweet, unhulled	2½ lbs.	Potatoes	3 to 4 lbs.
Collards, 1 oz. to 2,000 plants.....	4 oz.	Pumpkin, 1 oz. to 30 hills	10 lbs.
Corn, Sweet, 1 lb. to 200 hills.....	8 to 12 lbs.	Radish, 1 oz. to 100 feet of drill.....	5 to 10 lbs.
Corn, field	8 to 12 lbs.	Rape, Dwarf Essex	2 lbs.
Corn, fodder	8 to 20 lbs.	Rutabagas, 1 oz. to 150 feet of drill	60 to 80 lbs.
Corn, Pop	8 to 12 lbs.	Salsify, 1 oz. to 50 feet of drill.....	75 lbs.
Cress, 1 lb. to 100 feet of drill.....	1 lb.	Speltz	8 lbs.
Cucumber, 1 oz. to 60 mills	2 to 3 lbs.	Spinach, 1 oz. to 100 feet of drill	3 lbs.
Egg Plant, 1 oz. to 2,000 plants.....	4 oz.	Squash, Summer, 1 oz. to 25 hills	4 lbs.
Endive, 1 oz. to 100 feet of drill.....	4 oz.	Squash, Winter, 1 oz. to 12 hills	10 lbs.
Flax, for seed, 30 lbs to acre; for fibre.....	50 lbs.	Sugar Cane	8 lbs.
Grass, Brome	25 lbs.	Sunflower	4 oz.
Grass, lawn, 1 lb. to 300 sq. feet.....	80 lbs.	Turnip, 1 oz. to 150 feet of drill.....	2 lbs.
Grass, Kentucky Blue, Canadian Blue.....	20 lbs.	Vetches, Spring	60 to 90 lbs.
Grass, Soudan	10 lbs.	Vetches, Winter	30 to 60 lbs.
Timothy	6 to 12 lbs.	Wheat	60 to 80 lbs.
Red Top	10 to 15 lbs.		

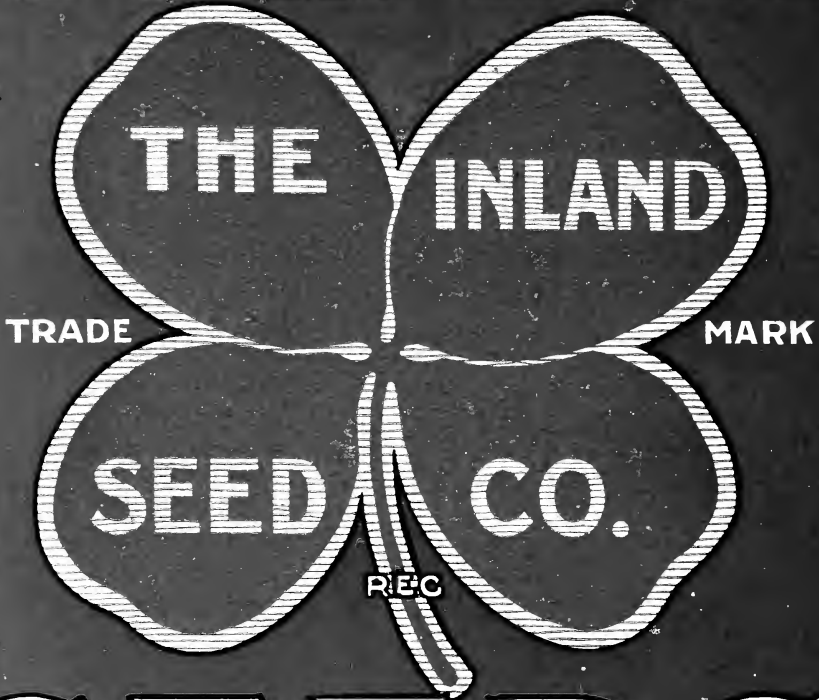
WEIGHT OF SEED PER BUSHEL

Clovers:		Barley, Hulled	60	Red Top, Hulled.....	36	Liberty	50
Alfalfa	60	Corn, Ear	70	Rye, English	25	Siberian	50
Alsylke	60	Corn, Shelled	56	Rye, Italian	22	White Wonder	50
Crimson	60	Oats	32	Sudan	22		
Red	60	Rye	56	Tall Meadow Oat.....	14	Miscellaneous:	
Sweet, Hulled	60	Wheat	60	Timothy	45	Buckwheat	50-48
Sweet, Unhulled	40					Flax	56
White	60	Grasses:		Millet:		Peas, Smooth	60
Grains:		Blue	14	Hog	50	Peas, Wrinkled	56
Barley	48	Brome	14	Hungarian	48	Onion Sets, Bot-	
		Orchard	14	Japanese	40	toms	32

USUAL DISTANCE FOR PLANTING

Bushes:		Roots:		Onions, drills, 2 to 3 ft.
Blackberries, 8x4 ft.		Asparagus, 2x3 ft.		Parsnips, drills, 2 to 3 ft.
" Mammoth, 8x12 ft.		Potatoes, 18 in. by 3 ft.		Peas, drills, 2 to 3 ft.
Currants, 5x3 ft.		Rhubarb, 3x4 ft.		Peas, broadcast, acre, 150 lbs.
Dewberries, 8x4 ft.		Sweet Potatoes, 2x4 ft.		Pumpkins, 8x8 ft.
Gooseberries, 5x3 ft.				Radishes, drills, 1 to 2 ft.
Raspberries, 7x3 ft.		Seeds:		Salsify, drills, 1 to 2 ft.
		Beans, Bush, drills, 3 ft.		Spinage, drills, 1 to 2 ft.
Plants:		Beans, Pole, 3x3 ft.		Squash, Bush, 3x4 ft.
Cabbage, Early, 16x30 inches.		Beets, Table, drills, 2x2½ ft.		Squash, Running, 8x8 ft.
Cabbage, late, 24x30 in.		Beets, Stock, drills, 2x3 ft.		
Cauliflower, 2x3 ft.		Carrots, drills, 2x2½ ft.		Trees:
Celery, 6 in. by 4 ft.		Corn, Sweet, 2x3 ft.		Apple, 30x30 ft.
Egg Plant, 3x5 ft.		Corn, Field, 3x3 ft.		Cherry, 20x20 ft.
Peppers, 18 in. by 2½ ft.		Cucumbers, 4x4 ft.		Peach, 20x20 ft.
Tomatoes, 4x4 ft.		Lettuce, drills, 1x2 ft.		Pear, 20x20 ft.
Strawberries, hills, 1½x3 ft.		Melon, Musk, 5x5 ft.		Plum, 20x20 ft.
" matted rows, 1x3 ft.		Melon, Water, 7x7 ft.		Quince, 20x20 ft.

INLAND



SEEDS

S P O K A N E , W A S H .

1921